AD-A167 385 ADA (TRADE NAME) COMPILER VALIDATION SUMMARY REPORT 1/1
ALSYS ALSYCOMP 002 VE..(U) BUREAU D'ORIENTATION DE LA
NORMALISATION EN INFORMATIQUE ROCQ.. 02 NOV 85S ET AL.

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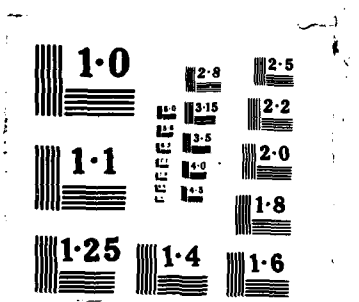
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REPORT DOCUMENTATION PAGE	READ INSTRUCTIONS BEFORE COMPLETING FORM
1 REPORT NUMBER / 2 GOVT ACCESSION NO.	3 RECIPIENT'S CATALOG NUMBER
4 TITLE (and Subtitle) Ada*Compiler Validation Summary Report: ALSYS AlsyCOMP_002, version 1.0 HP 9000/220 & HP 9000/320	5 TYPE OF REPORT & PERIOD COVERED 2 Nov 1985- 2 Nov 1986 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) BNI/AVF Domaine de Voluceau-Rocquencourt B.P. 105-78153 Le Chesnay Cedex, France	8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS BNI/AVF Domaine deVoluceau-Rocquencourt B.P. 105-78153 Le Chesnay Cedex, France	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS Ada Joint PRogram Office 1211 S.Fern St., Room C-107 Arlington, VA 22202	12. REPORT DATE 2 November 1985 13 NUMBER OF PAGES 75
14 MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office) BNI/AVF Domaine de Voluceau-Rocquencourt B.P. 105-78±53 Le Chesnay Cedex, France	15. SECURITY CLASS. (of this report) unclassified 15a. DECLASSIFICATION. DOWNGRADING SCHEDULE

16 DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

unclassified

18. SUPPLEMENTARY NOTES

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19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Ada Programming Language, Ada Compiler Validation Summary Report, Ada Compiler Validation Capability, ACVC, Validation Testing, Ada Validation Office, AVO, Ada Validation Facility, AVF, ANSI/MIL-STD-1815A, Ada Joint Program Office, AJPO

20. ABSTRACT (Continue on reverse side if necessary and identify by block number).

see attached abstract

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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

Ada COMPILER VALIDATION SUMMARY REPORT:

ALSYS
AlsyCOMP_002, version 1.0
HP 9000/220 & HP 9000/320

Completion of On-Site Validation:
2 November 1985

Prepared By:
BNI/AVF
Domaine de Voluceau - Rocquencourt
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FRANCE

Prepared For:
Ada Joint Program Office
United States Department of Defense
Washington, D.C.

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Ada Compiler Validation Summary Report:

Compiler Name: AlsyCOMP_002, version 1.0

Host Computers	Target Computers
HP 9000 Series 200 Model 220	HP 9000 Series 200 Model 220
HP 9000 Series 300 Model 320	HP 9000 Series 300 Model 320
under	under
HP-UX version 5.0	HP-UX version 5.0

Testing Completed 2 November 1985 Using ACVC 1.6

This report has been reviewed and approved:

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Washington, D.C.

EXECUTIVE SUMMARY

This Validation Summary Report presents the results and conclusions of testing performed on the AlsyCOMP_002, version 1.0. Standardized tests serve as input to an Ada compiler, producing results which are evaluated by the validation team. This summary briefly states the highlights of the AlsyCOMP_002, version 1.0 validation.

On-site testing was performed 31 October 1985 through 2 November 1985 at Alsys premises in La Celle Saint Cloud - France, under the auspices of the BNI (AVF), according to Ada Validation Office policies and procedures. The AlsyCOMP_002, version 1.0 is hosted on HP 9000 Series 200 Model 220 operating under HP-UX version 5.0, it is also hosted on HP 9000 Series 300 Model 320 computers operating under HP-UX version 5.0 . The suite of tests known as the Ada Compiler Validation Capability (ACVC), Version 1.6, was used. The ACVC is used to validate conformance of a compiler to ANSI/MIL-STD-1815A Ada. The purpose of testing is to ensure that a compiler properly implements legal language constructs and that it identifies and rejects illegal language constructs. The testing also identifies behavior that is implementation dependent but permitted by the Ada Standard. Six classes of tests are used. These tests are designed to perform checks at compile time, at link time, or during execution.

The results of validation are summarized in the following table.

RESULT	TEST CLASS						TOTAL
	A	B	C	D	E	L	
Passed	60	777	961	16	8	1	1823
Failed	0	0	0	0	0	0	0
Inapplicable	1	5	267	1	0	2	276
Anomalous	0	0	0	0	0	0	0
Withdrawn	0	18	45	0	0	0	63
TOTAL	61	800	1273	17	8	3	2162

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Tests found to contain errors were withdrawn from Version 1.6 of the Ada Compiler Validation Capability (ACVC). When validation was completed, the following tests had been withdrawn:

B38105B-AB	C45521A..Y-B (25 tests)	C48005C-B
C48006B-B	C64103C-B	C64103D-B
C64105E-AB	C64105F-AB	B66001A-B
B67001A-B	B67004A-B	B74103F-B
B74207A-B	C93005B-B	C93005C-B
C93007B-B	BC3220B-B	CA2009E-B
CA1003B-AB	CA1011A*-B	CA1108A-B
CA1108B-B	CA2009B-B	CA2009F*-B
BC1013A-B	BC3204A..D-B (4 tests)	BC3205A..D*-B (4 tests)
BC3405B-B	BC3503A-B	CE2107E-B
CE3603A-B	CE3604A-B	CE3704M-B

Some tests demonstrate that language features are not supported by an implementation. For this implementation the tests determined the following.

. SHORT_FLOAT is not supported:

B86001CP-AB.DEP C34001F-B.DEP C35702A-AB.DEP

. LONG_FLOAT is not supported:

B86001CQ-AB.DEP C34001G-B.DEP C35702B-AB.DEP

. Representation specifications for noncontiguous enumeration representations are not allowed:

C55B16A-AB.DEP

. No other integer type other than INTEGER, SHORT_INTEGER, AND LONG_INTEGER is supported:

B86001DT-AB.DEP

. The package SYSTEM is used by package TEXT_IO:

C86001F-B.ADA

. The 'SIZE clause is not supported:

C87B62A-B.DEP

. The 'STORAGE_SIZE clause is not supported:

C87B62B-B.DEP

. The 'SMALL clause is not supported:

C87B62C-B.DEP

. Generic package bodies cannot be compiled in separate compilation files:

CA2009C*-B.DEP

. Pragma INLINE is not supported for procedures:

LA3004A*-AB.ADA

. Pragma INLINE is not supported for functions:

LA3004B*-B.DEP

ACVC Version 1.6 was taken on-site via magnetic tape to Alsys premises in La Celle Saint Cloud - France. The tape was loaded, and all tests, except the withdrawn tests and any executable tests which make use of a floating point precision greater than SYSTEM.MAX_DIGITS, were compiled on HP 9000 Series 200 Model 220. Class A, C, D, and E tests were executed on HP 9000 Series 200 Model 220.

On completion of testing, all results were analyzed for failed Class A, C, D, or E programs, and all Class B and L compilation results were individually analyzed.

The ACVC, Version 1.6, contains 2162 tests of which 1823 were applicable to AlsyCOMP_002, version 1.0. 22 tests were processed although inapplicable. No anomalies were found in the testing of this compiler. Testing demonstrated that all applicable tests were passed by this compiler. The AVF concluded that the results show acceptable compliance to ANSI/MIL-STD-1815A Ada.

CHAPTER 1

INTRODUCTION

The Validation Summary Report describes how an Ada compiler conforms to the language standard. This report explains all technical terms used within and thoroughly reports the Ada Compiler Validation Capability (ACVC) test results. Ada compilers must be written according to the language specification as given in the ANSI/MIL-STD-1815A Ada. All implementation-defined features must be included for the compiler to conform to the Standard. Following the guidelines of the Standard ensures continuity between compilers. That is, the entire Standard must be implemented, and nothing can be implemented that is not in the Standard.

Even though all validated Ada compilers conform to the Standard, it must be understood that some differences do exist between implementations. ANSI/MIL-STD-1815A permits some implementation dependencies, e.g., the maximum length of identifiers, the maximum values of integer types, etc. These implementation-dependent features limit the portability of programs between compilers. Other differences between compilers are due to limitations imposed on a compiler by the operating system and by the hardware. All of these dependencies are given in the report.

Validation summary reports are written according to a standardized format. Compiler users can, therefore, more easily compare the reports from several compilers when selecting a compiler for a given task. The validation report can be completed mostly from the test results produced during validation testing. Additional testing information is given at the end of the report and states problems and details which are unique for a specific compiler. The format of the validation report limits variance between reports, enhances readability of the report, and accelerates report readiness.

1.1- Purpose of this Validation Summary Report

The Validation Summary Report documents the results of the testing performed on an Ada compiler. Testing was carried out for the following purposes:

- To identify any language constructs supported by the translator that do not conform to the Ada Standard
- To identify any unsupported language constructs required by the Ada Standard

. To describe the implementation-dependent behavior allowed by the Ada Standard

Testing of this compiler was conducted by BNI according to policies and procedures established by the Ada Validation Office (AVO). Testing was conducted from 31 October 1985 through 2 November 1985 at Alsys premises in La Celle Saint Cloud - France.

1.2- Use of this Validation Summary Report

Consistent with the national laws of the originating country, the Ada Validation Office may make full and free public disclosure of this report. In the United States, this is provided in accordance with the "Freedom of Information Act" (5 U.S.C. #552). The results of this validation apply only to the computers, operating systems, and compiler versions identified in this report.

The organizations represented on the signature page of this report do not represent or warrant that any statement or statements set forth in this report are accurate or complete, or that the subject compiler has no nonconformances to the Ada Standard other than those presented. This report is not intended for the purpose of publicizing the findings summarized herein.

Questions regarding this report or the validation tests should be directed to:

Ada Validation Office
Institute for Defense Analyses
1801 N. Beauregard
Alexandria VA 22311

and to:

BNI
Domaine de Voluceau - Rocquencourt
B.P.105 - 78153 LE CHESNAY CEDEX
FRANCE

1.3- References

. Reference Manual for the Ada Programming Language, ANSI/MIL-STD-1815A, Feb 1983.

. Ada Validation Organization Policies and Procedures
T.H. Probert, MITRE Corporation, MTR-82W00103, June 1982.

. Ada Compiler Validation Capability Implementers' Guide,
SofTech, Inc., Dec 1984.

1.4- Definition of Terms

Anomaly	A test result that, given pre-validation analysis, is not expected during formal validation but is judged allowable under the circumstances.
ACVC	The Ada Compiler Validation Capability. A set of programs that evaluates the conformance of a compiler to the Ada language specification, ANSI/MIL-STD-1815A.
Ada Standard	ANSI/MIL-STD-1815A, February 1983.
Applicant	The agency requesting validation.
AVF	The BNI. In the context of this report, the AVF is responsible for conducting compiler validations according to established policies and procedures.
AVO	The Ada Validation Office. In the context of this report, the AVO is responsible for setting policies and procedures for compiler validations.
Compiler	A processor for the Ada language. In the context of this report, a compiler is any language processor, including cross-compilers, translators, and interpreters.
Failed test	A test for which the compiler generates a result that demonstrates nonconformance to the Ada Standard.
Host	The computer on which the compiler resides.
Inapplicable test	A test that uses features of the language that a compiler is not required to support or may legitimately support in a way other than the one expected by the test.
Passed test	A test for which a compiler generates the expected result.
Target	The computer for which a compiler generates code.
Test	A program that evaluates the conformance of a compiler to a language specification. In the context of this report, the term is used to designate a single ACVC test. The text of a program may be the text of one or more compilations.

Withdrawn test A test that has an invalid test objective, fails to meet its test objective, or contains illegal use of the language.

1.5- Configuration

The candidate compilation system for this validation was tested under the configuration:

Compiler: AlsyCOMP_002, version 1.0

Test Suite: Ada Compiler Validation Capability, Version 1.6

Host Computer:

Machine(s):	HP 9000 Series 200 Model 220
Operating System:	HP-UX version 5.0
Memory Size:	6 Megabytes
Disk System:	132 Megabytes

Target Computer:

Machine(s):	HP 9000 Series 200 Model 220
Operating System:	HP-UX version 5.0
Memory Size:	6 Megabytes
Disk System:	132 Megabytes

Additional testing was successfully performed by BNI on HP 9000 Series 300 Model 320, using a subset of the ACVC comprising the first 5 tests of each chapter. The configuration was the following:

Host Computer:

Machine(s):	HP 9000 Series 300 Model 320
Operating System:	HP-UX version 5.0
Memory Size:	2 Megabytes
Disk System:	55 Megabytes

Target Computer:

Machine(s):	HP 9000 Series 300 Model 320
Operating System:	HP-UX version 5.0
Memory Size:	2 Megabytes
Disk System:	55 Megabytes

CHAPTER 2

TEST RESULTS

2.1- ACVC Test Classes

Conformance to ANSI/MIL-STD-1815A is measured using the Ada Compiler Validation Capability (ACVC). The ACVC contains both legal and illegal Ada programs structured into six test classes: A, B, C, D, E, and L. Legal programs are compiled and executed while illegal programs are just compiled. Support packages are used to report the results of the legal programs. A compiler must correctly process each of the tests in the suite and demonstrate conformance to the Ada Standard by either meeting the pass criteria given for the test or by showing that the test is inapplicable to the implementation. Tests that are found to contain errors are withdrawn from the ACVC. Detailed test results are listed in the Appendix D. The results of validation testing are summarized in the following table:

RESULT	TEST CLASS						TOTAL
	A	B	C	D	E	L	
Passed	60	777	961	16	8	1	1823
Failed	0	0	0	0	0	0	0
Inapplicable	1	5	267	1	0	2	276
Anomalous	0	0	0	0	0	0	0
Withdrawn	0	18	45	0	0	0	63
TOTAL	61	800	1273	17	8	3	2162

A total of 1845 tests were processed during this validation attempt. The 63 withdrawn tests in Version 1.6 were not processed, nor were 254 Class C tests that were inapplicable because they use floating point types having digits that exceed the maximum value for the implementation. All other tests were processed.

Some conventions are followed in the ACVC to ensure that the tests are reasonably portable without modification. For example, the tests make use of only the basic 55 character set, contain lines with a maximum length of 72 characters, use small numeric values, and place features that may not be supported in separate tests. However, some tests contain values that require the test to be customized according to implementation-specific values. The values used for this validation are listed in Appendix B.

2.1.1- Class A Tests

Class A tests check that legal Ada programs can be successfully compiled and executed. However, no checks are performed during execution to see if the test objective has been met. For example, a Class A test checks that reserved words of another language (other than those already reserved in the Ada language) are not treated as reserved words by an Ada compiler. A Class A test is passed if no errors are detected at compile time and the program executes to produce a message indicating that it has passed. If a Class A test cannot be compiled and executed because of its size, then the test is split into a set of smaller subtests that can be processed. A split was required for 1 test:

AE2101A-B.ADA

The following table shows that all applicable Class A tests were passed:

RESULT	CHAPTER												
	2	3	4	5	6	7	8	9	10	11	12	14	TOTAL
Passed	13	6	0	5	2	12	13	2	0	0	0	7	60
Failed	0	0	0	0	0	0	0	0	0	0	0	0	0
Inapplicable	0	0	0	0	0	0	0	1	0	0	0	0	1
Anomalous	0	0	0	0	0	0	0	0	0	0	0	0	0
Withdrawn	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	13	6	0	5	2	12	13	3	0	0	0	7	61

2.1.2- Class B Tests

Class B tests check that a compiler detects illegal language usage. Class B tests are not executable. Each test in this class is compiled and the resulting compilation listing is examined manually to verify that every syntax or semantic error in the test is detected. A Class B test is passed if every illegal construct that it contains is detected by the compiler. If one or more errors are not detected, then a version of the test is created that contains only the undetected errors. The resulting "split" is compiled and examined. The splitting process continues until all errors are detected by the compiler. Splits were required for 15 tests:

B32202A-B.ADA	B32202B-B.ADA	B32202C-B.ADA
B33006A-B.ADA	B37004A-B.ADA	B43201D-B.ADA
B45102A-AB.ADA	B61012A-B.ADA	B62001B-AB.ADA
B62001C-AB.ADA	B62001D-AB.ADA	B91004A-B.ADA
BA2001E0M-AB.ADA	BA2001E1-AB.ADA	BA2001E2-AB.ADA

The following table shows that all applicable Class B tests were passed:

RESULT	CHAPTER												
	2	3	4	5	6	7	8	9	10	11	12	14	TOTAL
Passed	35	72	83	113	70	55	49	91	36	8	147	18	777
Failed	0	0	0	0	0	0	0	0	0	0	0	0	0
Inapplicable	0	0	0	0	0	0	3	1	0	0	1	0	5
Anomalous	0	0	0	0	0	0	0	0	0	0	0	0	0
Withdrawn	0	1	0	0	3	2	0	0	0	0	12	0	18
TOTAL	35	73	83	113	73	57	52	92	36	8	160	18	800

2.1.3- Class C Tests

Class C tests check that legal Ada programs can be correctly compiled and executed. Each Class C test is self-checking and produces a PASS/FAIL message indicating the result when it is executed. If a Class C test cannot be compiled because it exceeds the compiler's capacity, then the test is split into smaller subtests until all are compiled and executed. No splits were required.

The following table shows that all applicable Class C tests were passed:

RESULT	CHAPTER												
	2	3	4	5	6	7	8	9	10	11	12	14	TOTAL
Passed	19	89	153	115	70	14	93	106	35	20	55	192	961
Failed	0	0	0	0	0	0	0	0	0	0	0	0	0
Inapplicable	23	119	116	4	0	0	4	0	1	0	0	0	267
Anomalous	0	0	0	0	0	0	0	0	0	0	0	0	0
Withdrawn	0	0	27	0	4	0	0	3	7	0	0	4	45
TOTAL	42	208	296	119	74	14	97	109	43	20	55	196	1273

2.1.4- Class D Tests

Class D tests check the compilation and execution capacities of a compiler. Since there are no requirements placed on a compiler by the Ada Standard for the number of identifiers permitted in a compilation, the number of units in a library, the number of nested loops in a subprogram body, and so on, a compiler may refuse to compile a Class D test. Each Class D test is self-checking and produces a PASS/FAIL message indicating the result when it is executed. If a Class D test fails to compile because the capacity of the compiler is exceeded, then the test is classified as inapplicable.

The following table shows that all applicable Class D tests were passed:

RESULT	CHAPTER												
	2	3	4	5	6	7	8	9	10	11	12	14	TOTAL
Passed	1	0	4	9	2	0	0	0	0	0	0	0	16
Failed	0	0	0	0	0	0	0	0	0	0	0	0	0
Inapplicable	0	0	0	0	1	0	0	0	0	0	0	0	1
Anomalous	0	0	0	0	0	0	0	0	0	0	0	0	0
Withdrawn	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1	0	4	9	3	0	0	0	0	0	0	0	17

Capacities measured by the Class D tests are detailed in section 2.4, IMPLEMENTATION CHARACTERISTICS.

2.1.5- Class E Tests

Class E tests provide information about the compiler in those areas in which the Ada Standard permits implementations to differ. Each Class E test is executable and produces messages that indicate how the Ada Standard is interpreted. However, in some cases the Ada Standard permits a compiler to detect a condition either at compile time or at execution time, and thus a Class E test may correctly fail to execute. A Class E test is passed if it fails to compile and appropriate error messages are issued, or if it executes properly and produces a message that it has passed. If a Class E test cannot be compiled and executed because of its size, then the test is split into a set of smaller subtests that can be processed. No splits were required.

The following table shows that all applicable Class E tests were passed:

RESULT	CHAPTER												
	2	3	4	5	6	7	8	9	10	11	12	14	TOTAL
Passed	1	3	2	1	0	0	0	0	0	0	0	1	8
Failed	0	0	0	0	0	0	0	0	0	0	0	0	0
Inapplicable	0	0	0	0	0	0	0	0	0	0	0	0	0
Anomalous	0	0	0	0	0	0	0	0	0	0	0	0	0
Withdrawn	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1	3	2	1	0	0	0	0	0	0	0	1	8

Information obtained from the Class E tests is detailed in section 2.4, IMPLEMENTATION CHARACTERISTICS.

2.1.6- Class L Tests

Class L tests check that incomplete or illegal Ada programs involving multiple, separately compiled units are detected and not allowed to execute. Class L tests are compiled separately and execution is attempted. A Class L test passes if it is rejected at link time and the test does not execute.

The following table shows that all applicable Class L tests were passed:

RESULT	CHAPTER												
	2	3	4	5	6	7	8	9	10	11	12	14	TOTAL
Passed	0	0	0	0	0	0	0	0	1	0	0	0	1
Failed	0	0	0	0	0	0	0	0	0	0	0	0	0
Inapplicable	0	0	0	0	0	0	0	0	2	0	0	0	2
Anomalous	0	0	0	0	0	0	0	0	0	0	0	0	0
Withdrawn	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	3	0	0	0	3

2.1.7- Support Units

Three packages support the self-checking features of Class C tests: REPORT, CHECK_FILE, and VAR_STRINGS. The REPORT package provides the mechanism by which executable tests report results. It also provides a set of identity functions that are used to defeat some compiler optimization strategies to cause computations to be made by the target computer instead of the compiler on the host computer. The CHECK_FILE package is used to check the contents of text files written by some of the Class C tests for Chapter 14 of the Ada Standard. The VAR_STRINGS package defines types and subprograms for manipulating varying-length character strings. The operation of these three packages is checked by a set of executable tests. These tests produce messages that are examined manually to verify that the packages are operating correctly. If these packages are not operating correctly, then validation is not attempted.

An applicant is permitted to substitute the body of package REPORT with an equivalent one if for some reason the original version provided by the ACVC cannot be executed on the target computer. Package REPORT was not modified for this validation.

All support package specifications and bodies were compiled and were demonstrated to be operating correctly.

2.2- Withdrawn Tests

Some tests are withdrawn from the ACVC because they do not conform to the Ada Standard. When testing was performed, the following 63 tests had been withdrawn for the reasons indicated:

B38105B-AB:
This test requires a specific interpretation of the Ada Standard regarding whether an incomplete type can have discriminant constraints before the full type declaration; this interpretation is not fully supported by the Ada Standard or Language Maintenance Committee (LMC).

C45521A..Y-B (25 tests):
Cases C and I define the model interval for the result too narrowly.

C48005C-B:
Lines 38 and 63 of this test should check that the value of the designated object is null.

C48006B-B:
This test requires a specific interpretation of the Ada Standard regarding whether an incomplete type can have discriminant constraints before the full type declaration ; this interpretation is not fully supported by the Ada Standard or Language Maintenance Committee.

C64103C-B:
This test should raise CONSTRAINT_ERROR during the conversion at line 179.

C64103D-B:
This test involves a CONSTRAINT_ERROR vs. NUMERIC_ERROR issue that is to be resolved by the Language Maintenance Committee.

C64105E-AB:
For case E, ensure that non-null dimensions of formal and actual parameters belong to both index subtypes (see AI-00313).

C64105F-AB:
For case E, ensure that non-null dimensions of formal and actual parameters belong to both index subtypes (see AI-00313).

B66001A-B:
This test checks (in section G) that a function without parameters, which is equivalent to an enumeration literal in the same declarative region, is a redeclaration and as such is forbidden. According to the Ada Standard 8.3(17), the explicit declaration of such a function is allowed if an enumeration literal is considered to be an implicitly declared predefined operation. The Ada Standard is not clear on this point. This issue has been referred to the Language Maintenance Committee for resolution. Since the issue cannot be resolved at this time, the test is withdrawn from Version 1.6.

B67001A-B:
Line 414 is missing the "BEGIN NULL; END;" needed to complete the block beginning at line 389 (case H).

B67004A-B:
This default name for a formal generic equality function should not be allowed to be "/=" unless an expanded name is used.

B74103F-B:
This test hinges on whether or not a generic formal type declaration declares a type. This matter will be debated by the Language Maintenance Committee in November.

B74207A-B:
This test requires a specific interpretation of the Ada Standard regarding whether an incomplete type can have discriminant constraints before the full type declaration; this interpretation is not fully supported by the Ada Standard or Language Maintenance Committee.

C93005B-B, C93005C-B:
These tests contain a declaration of an integer variable whose initialization is solely for the purpose of raising an exception. Some compilers will not raise this exception due to their optimization.

C93007B-B:
This test should check for PROGRAM_ERROR rather than TASKING_ERROR (SEE AI-000149).

CA1003B-AB:
A compilation that contains an illegal compilation unit may now be rejected as a whole (see AI-00255/05).

CA1011A*-B:
The test objective should be reversed to be consistent with AI-00199.

CA1108A-B:
A pragma ELABORATE is needed for OTHER_PKG at line 25.

CA1108B-B:
A pragma ELABORATE is needed for FIRST-PKG at line 39 and for LATER-PKG at line 49.

CA2009B-B:
The repetition of the main procedure after the subunit body makes the subunit body obsolete; therefore, an attempt to execute the main procedure will fail.

CA2009E-B:
The repetition of the main procedure after the subunit body makes the subunit body obsolete; therefore, an attempt to execute the main procedure will fail.

CA2009F*-B:
The file CA2009F2-B is missing from this test suite.

BC1013A-B:
The declaration of equality in lines 86-87 is illegal because the parameter type T declared in line 11 is not a limited type (Ada Standard 6.7-4).

BC3204A..D-B (4 tests), BC3205A..D*-B (4 tests), BC3405B-B:
Instantiations with types that have default discriminants are now legal (see AI-00037).

BC3220B-B:
This test assumes that the staticness of instantiated generic parameters follows from the staticness of the actual parameter of the instantiation. This compiler treats all such instantiated parameters as non-static. The matter is before the LMC for resolution.

BC3503A-B:
This test requires a specific interpretation of the Ada Standard regarding whether an incomplete type can have discriminant constraints before the full type declaration ; this interpretation is not fully supported by the Ada Standard or Language Maintenance Committee.

CE2107E-B:
This test has a variable, TEMP_HAS_TRUE, that needs to be given an initial value of TRUE.

CE3603A-B:
The last case is inconsistent with AI-00050. If string argument is null, no attempt to read is made and END_ERROR is not raised.

CE3604A-B:
Cases 5,8,9, and 11 are inconsistent with AI-00050. SKIP_LINE is called only if the end of the output string has not been met.

CE3704M-B:
A superfluous SKIP_LINE causes the input and output operations to be out of synchronization.

2.3- Inapplicable Tests

Some tests use features of the Ada language that the Ada Standards does not require a compiler to support; thus these tests may be inapplicable to a particular compiler. Others may depend on the result of another test that is either inapplicable or withdrawn. For this validation attempt, 276 tests were inapplicable for the reasons indicated:

A91002M-B.ADA:
This test is inapplicable because this implementation does not support certain pragmas such as CONTROLLED.

B86001DT-AB.TST:
This test is inapplicable because this implementation has no predefined type other than INTEGER, FLOAT, SHORT_INTEGER, SHORT_FLOAT, LONG_INTEGER, LONG_FLOAT. The macro name SNAME was set to NO_SUCH_TYPE and the declaration of a procedure name NO_SUCH_TYPE is then legal.
C24113C..Y-B.DEP
C35705C..Y-B.DEP
C35706C..Y-B.DEP
C35707C..Y-B.DEP
C35708C..Y-B.DEP
C35802C..Y-B.DEP
C45241C..Y-B.DEP
C45321C..Y-B.DEP
C45421C..Y-B.DEP
C45424C..Y-B.DEP
C45621C..Z-B.DEP ((10*23)+24=254 tests):
These tests are inapplicable because this implementation limits digits to 6.

B86001CP-AB.DEP
C34001F-B.DEP
C35702A-AB.DEP:
These tests are inapplicable because this implementation does not support SHORT_FLOAT.

B86001CQ-AB.DEP
C34001G-B.DEP
C35702B-AB.DEP:
These tests are inapplicable because this implementation does not support LONG_FLOAT.

B91001G-B.ADA
BC1002A-B.ADA
C55B16A-AB.DEP
C87B62A..C-B.DEP ((1*3)+3 = 6 tests):
These tests are inapplicable because this implementation does not support representation clauses.

C86001F-B.DEP:
This test is inapplicable because this implementation rejects the recompilation of SYSTEM at compilation-time.

CA2009C-B.DEP:
This test is inapplicable because this implementation does not support instantiating missing generic bodies.

D64005G*-B.ADA:
The last test of this family (D64005GQ-B.ADA) exeeds the capacity of this implementation, preventing the binding and the execution of this family.

LA3004A*-AB.DEP
LA3004B*-B.DEP:
These tests are inapplicable because this implementation does not support pragma INLINE. These tests ignore the pragma and are processed correctly.

C52103X-B.ADA
C52104X-B.ADA
C52104Y-B.ADA:
These tests are inapplicable because this implementation does not support pragma PACK. These tests ignore the pragma and are processed correctly.

2.4- Implementation Characteristics

One of the purposes of validation is to determine the behavior of a compiler in those areas of the Ada Standard that permit implementations to differ. Class D and E tests specifically check for such implementation differences. However, inapplicable tests in other classes also characterize an implementation. This compiler is characterized by the following interpretations of the Ada Standard:

. Non-graphic characters.

  Non-graphic characters are defined in the ASCII character set but are not permitted in Ada programs, even within character strings. The compiler correctly recognizes these characters as illegal in Ada compilations. The characters are not printed in the output listing.

. Capacities.

  The compiler correctly processes compilations containing loop statements nested to 65 levels, block statements nested to 65 levels, procedures nested to 10 levels, and 723 variables.

. Universal integer calculations.

  An implementation is allowed to reject universal integer calculations having values that exceed SYSTEM.MAX_INT. This implementation does not reject such calculations and processes them correctly.

. Universal real calculations.

  An implementation is allowed to reject universal real calculations having values that exceed certain precisions. This implementation does not reject such calculations and processes them correctly.

  No rounding in this compiler. The precision is arbitrarily high.

. Predefined types.

  This implementation supports the predefined types SHORT_INTEGER, LONG_INTEGER, INTEGER, FLOAT, DURATION. It does not support any other predefined numeric types.

. Based literals.

An implementation is allowed to reject a based literal with value exceeding SYSTEM.MAX_INT during compilation or it may raise NUMERIC_ERROR during execution. This compiler raises NUMERIC_ERROR during execution.

. Array types.

An implementation is allowed to raise NUMERIC_ERROR for an array having a 'LENGTH that exceeds STANDARD.INTEGER'LAST and/or SYSTEM.MAX_INT. When an array type is declared with an index range exceeding INTEGER values and with a component that is a null BOOLEAN array, this compiler does not raise any exception.

When an array type is declared with an index range exceeding SYSTEM.MAX_INT values and with a component that is a null BOOLEAN array, this compiler raises NUMERIC_ERROR.

A packed BOOLEAN array of length INTEGER'LAST+3 does not raise any exception. A packed two-dimensional BOOLEAN array with INTEGER'LAST+3 components does not raise any exception.

A null array with one dimension of length exceeding INTEGER'LAST does not raise any exception.

In assigning one-dimensional array types, the entire expression is evaluated before CONSTRAINT_ERROR is raised when checking whether the expression's subtype is compatible with the target's subtype. In assigning two-dimensional array types, the entire expression is not evaluated before CONSTRAINT_ERROR is raised when checking whether the expression's subtype is compatible with the target's subtype. In assigning record types with discriminants, the entire expression is evaluated before CONSTRAINT_ERROR is raised when checking whether the expression's subtype is compatible with the target's subtype.

. Discriminated types.

An incompletely declared type with discriminants may be used in an access type definition and constrained either there or in later subtype indications.

. Aggregates.

When evaluating the choices of a multi-dimensional aggregate all choices are evaluated before checking against the index type.

When evaluating an aggregate containing subaggregates, all choices are not evaluated before being checked for identical bounds.

. Functions.

The declaration of a parameterless function with the same profile as an enumeration literal in the same immediate scope is rejected by the implementation.

. Representation clauses.

'SMALL length clauses are not supported.

Enumeration representation clauses are not supported.

. Tasks.

A task object's storage size is not allowed to change after the task is activated.

. Generics.

When given a separately compiled generic declaration, some illegal instantiations, and a body, the compiler rejects the body because of the instantiations.

. Package CALENDAR.

TIME_OF and SPLIT are inverses when SECONDS is a non-model number.

. Pragmas.

Pragma INLINE is not supported for procedures. It is not supported for functions.

. Input/output.

Package SEQUENTIAL_IO can be instantiated with unconstrained array types and record types with discriminants. Package DIRECT_IO can be instantiated with unconstrained array types and record types with discriminants without defaults.

For SEQUENTIAL_IO, DIRECT_IO and TEXT_IO more than one internal file can be associated with each external file for both reading and writing. An external file associated with more than one internal file can be deleted.

An existing text file can be opened in OUT_FILE mode, can be created in OUT_FILE mode, and can be created in IN_FILE mode.

Dynamic creation and resetting of a sequential file is allowed.

Temporary sequential files are given a name. Temporary direct files are given a name. Temporary files given names are deleted when they are closed.

CHAPTER 3

COMPILER ANOMALIES AND NONCONFORMANCES

3.1- Anomalies

An anomaly is a test result that, given the pre-validation analysis, was not expected during formal validation but which is judged allowable by the AVF and the AVO under the circumstances of the validation. No anomalies were detected in this validation attempt.

3.2- Nonconformances

Any discrepency between expected test results and actual test results is considered to be a nonconformance. No nonconformances were detected in this validation attempt.

CHAPTER 4

ADDITIONAL TESTING INFORMATION

4.1- Pre-Validation

Prior to validation, a set of test results for ACVC 1.6 produced by AlsyCOMP_002, version 1.0 was submitted to BNI by the applicant for pre-validation review. Analysis of these results demonstrated that the compiler successfully passed all applicable tests, except for 3 disputed test of which 2 were withdrawn from ACVC 1.6. Alsys subsequently claimed to be able to successfully process the disputed test that was not withdrawn.

4.2- Test Site

Tests were compiled and executed at Alsys premises in La Celle Saint Cloud - France.

4.3- Test Tape Information

A test tape containing ACVC Version 1.6 was taken on-site by the validation team. This tape contained all tests applicable to this validation as well as all tests inapplicable to this validation except for any Class C tests that require floating-point precision exceeding the maximum value supported by the implementation. Tests that were withdrawn from ACVC 1.6 were not written to the tape. Tests that make use of values that are specific to an implementation were customized before being written to the tape. Any split tests were also included on the test tape so that no editing of the test files was necessary when the validation team arrived on-site.

The test files were mounted on a VAX. They were transfered from the VAX by an ETHERNET local area network to the HP machines. Only one directory was used. The format of there test tape was the same as the ACVC distribution tapes.

4.4- Testing Logistics

Once all tests had been loaded to disk, processing was begun using command scripts provided by ALSYS. The text of these scripts are given in Appendix C.

The compiler supports various options that control its operation. The compiler was tested with the following option settings.

For details about the options see appendix C.

The following options were used :

error_limit=999	: extension of the implicit number of errors before abortion
line=120	: line length
short	: no compilation listing
long	: compilation listing
banner	: banner for each test
nosummary	: no recapitulation of errors

The B tests were compiled with the option OPTSB (error_limit=999 line=120 long banner nosummary).

The other tests that do not execute were compiled with the option OPTSDEV (error_limit=999 line=120 long banner nosummary).

The tests that do execute were compiled with the option OPTS (error_limit=999 line=120 short banner nosummary).

The tests were run in the following order : A, B, C, D, E and L.

One Ada library was used per ACVC chapter.

Two identical machines were running in parallel with one batch queue per machine.

The two queues run separately the report package tests. One queue dealt with tests B3, B5, C2, C4, C6, C8, CE, D, and E. The other one dealt with tests A, B2, B4, B6, B7, B8, B9, BA, BB, BC, C3, C5, C7, C9, CA, CB, CC, and CZ.

The results were stored in Unix files, one per test.

4.5- Testing Duration

The ACVC has not been designed for use in measuring compiler performance. The information reported here thus merely described the duration of the on-site testing for conformity, and is not necessarily an indication of the subject system's performance.

The validation for HP 9000/220 started on Thursday, 31 October at 15:40. It finished on Saturday, 2 November at 19:58. The times for the validation were :

CPU User : 32:54

CPU System : 21:07

Elapsed : 78:20

No timing information was collected for the sample validation of the HP 9000/320.

CHAPTER 5

SUMMARY AND CONCLUSIONS

The BNI identified 1845 of the 2162 tests in Version 1.6 of the Ada Compiler Validation Capability to be processed during the validation of AlsyCOMP_002, version 1.0. Excluded were 254 tests requiring too great a floating-point precision, and the 63 tests withdrawn tests. 22 tests were determined to be inapplicable after they were processed. The remaining 1823 processed tests were passed by the compiler.

The BNI concludes that these results demonstrate acceptable conformance to the Ada Standard.

APPENDIX A

COMPLIANCE STATEMENT

The only allowed implementation dependencies correspond to implementation-dependent pragmas and attributes, to certain machine-dependent conventions as mentioned in Chapter 13 of MIL-STD-1815A, and to certain allowed restrictions on representation clauses. The implementation-dependent characteristics of the AlsyCOMP_002, version 1.0 are described in the following sections which discuss topics one through eight as stated in Appendix F of the Ada Standard.

(1) Implementation-Dependent Pragmas

None.

(2) Implementation-Dependent Attributes

None.

(3) Package SYSTEM

The specification for package SYSTEM is

```
package SYSTEM is

    type ADDRESS is private;
    type NAME is ( UNIX );

    SYSTEM_NAME  : constant NAME := UNIX;
    STORAGE_UNIT : constant := 8;
    MEMORY_SIZE  : constant := 2**24 - 1;

    -- System-Dependent Named Numbers:

    MIN_INT      : constant := -(2**31);
    MAX_INT      : constant := 2**31-1;
    MAX_DIGITS   : constant := 6;
    MAX_MANTISSA : constant := 31;
    FINE_DELTA   : constant := 2#1.0#e-31;
    TICK         : constant := 1.0;

    -- Other System-Dependent Declarations

    subtype PRIORITY is INTEGER range 1..127;

end SYSTEM;
```

(4) Representation Clause Restrictions

Representation clauses specify how the types of the language are to be mapped onto the underlying machine. The following are restrictions on representation clauses.

Address Clause

Not accepted

Length Clause

Not accepted

Enumeration Representation Clause

Not accepted

Record Representation Clause

Not accepted

(5) Conventions

No implementation-generated names.

(6) Address Clauses

Not accepted.

(7) Unchecked Conversions

The following are restrictions on unchecked conversions, including those depending on the respective sizes of objects of the source and target.

They should have the same size.

(8) Input-Output Packages

The following are implementation-dependent characteristics of the input-output packages.

SEQUENTIAL_IO Package

Declare file type and applicable operations for files of this type.

There is no restriction in the use of sequential Input/Output.

DIRECT_IO Package

```
type COUNT is range 0 .. 2_147_483_647;
```

TEXT_IO Package

```
type COUNT is range 0 .. 2_147_483_647;

subtype FIELD is INTEGER range 0 .. 255;
```

(9) Package STANDARD

```
type INTEGER is range -32768 .. 32767;
type SHORT_INTEGER is range -128 .. 127;
type LONG_INTEGER is -2_147_483_648.. 2_147_483_647;

type FLOAT is digits 6 range
                -2#1.111_1111_1111_1111_1111_1111#E+127
             .. 2#1.111_1111_1111_1111_1111_1111#E+127;
```

No other additional predefined floating point types

```
type DURATION is delta 0.002 range -86_400.0 .. 86_400.0;
```

No other predefined types

(10) File Names

File names make no use of conventions except those of the operating system.

APPENDIX B

TEST PARAMETERS

Certain tests in the ACVC make use of implementation-dependent values, such as the maximum length of an input line and invalid file names. A test that makes use of such values is identified by the extension .TST in its file name. Actual values to be substituted are identified by names that begin with a dollar sign. A value is substituted for each of these names before the test is run. The values used for this validation are given below.

Name and Meaning	Value
$MAX_IN_LEN Maximum input line length permitted by the implementation.	255
$BIG_ID1 Identifier of size MAX_IN_LEN with varying last character.	X2345678901234567890123456789012345 6789012345678901234AAAAAAAAAAAAAAA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA AAAAAAAAA1
$BIG_ID2 Identifier of size MAX_IN_LEN with varying last character.	X2345678901234567890123456789012345 6789012345678901234AAAAAAAAAAAAAAA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA AAAAAAAAA2

Name and Meaning	Value
$BIG_ID3 Identifier of size MAX_IN_LEN with varying middle character.	X2345678901234567890123456789012345 67890123456789012345AAAAAAAAAAAAAAA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA AAAAAAAAAAAAAAAAAAAAAAA3AAAAAAAAAA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA AAAAAAAAAA
$BIG_ID4 Identifier of size MAX_IN_LEN with varying middle character.	X2345678901234567890123456789012345 67890123456789012345AAAAAAAAAAAAAAA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA AAAAAAAAAAAAAAAAAAAAAAA4AAAAAAAAAA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA AAAAAAAAAA
$NEG_BASED_INT A based integer literal whose highest order non-zero bit falls in the sign bit position of the representation for SYSTEM.MAX_INT.	16#FF_FF_FF_FD#
$BIG_INT_LIT An integer literal of value 298 with enough leading zeroes so that it is MAX_IN_LEN characters long.	00000000000000000000000000000000000 00000000000000000000000000000000000 00000000000000000000000000000000000 00000000000000000000000000000000000 00000000000000000000000000000000000 00000000000000000000000000000000000 00000000000000000000000000000000000 0000000298
$BIG_REAL_LIT A real literal that can be either of floating or fixed point type, has value 690.0, and has enough leading zeroes to be MAX_IN_LEN characters long.	00000000000000000000000000000000000 00000000000000000000000000000000000 00000000000000000000000000000000000 00000000000000000000000000000000000 00000000000000000000000000000000000 00000000000000000000000000000000000 00000000000000000000000000000000000 000069.0E1
$EXTENDED_ASCII_CHARS A string literal containing all the ASCII characters with printable graphics that are not in the basic 55 Ada character set.	"abcdefghijklmnopqrstuvwxyz!$%?@[\]" & "↑'{}"

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Name and Meaning	Value
$NON_ASCII_CHAR_TYPE An enumerated type definition for a character type whose literals are the identifier NON_NULL and all non-ASCII characters with printable graphics.	(NON_NULL)
$BLANKS Blanks of length MAX_IN_LEN - 20	
$MAX_DIGITS Maximum digits supported for floating point types.	6
$NAME A name of a predefined numeric type other than FLOAT, INTEGER, SHORT_FLOAT, SHORT_INTEGER, LONG_FLOAT, LONG_INTEGER, or DURATION.	NO_SUCH_TYPE
$INTEGER_FIRST The universal integer literal expression whose value is INTEGER'FIRST.	-32768
$INTEGER_LAST The universal integer literal expression whose value is INTEGER'LAST.	32767
$LESS_THAN_DURATION A universal real value that lies between DURATION'BASE'FIRST and DURATION'FIRST or any value in the range of DURATION.	-100_000.0
$GREATER_THAN_DURATION A universal real value that lies between DURATION'BASE'LAST and DURATION'LAST or any value in the range of DURATION.	100_000.0

Name and Meaning	Value
$LESS_THAN_DURATION_BASE_FIRST The universal real value that is less than DURATION'BASE'FIRST.	-100_000_000.0
$GREATER_THAN_DURATION_BASE_LAST The universal real value that is greater than DURATION'BASE'LAST.	100_000_000.0
$COUNT_LAST Value of COUNT'LAST in TEXT_IO package.	2_147_483_647
$FIELD_LAST Value of FIELD'LAST in TEXT_IO package.	255
$FILE_NAME_WITH_BAD_CHARS An illegal external file name that either contains invalid characters or is too long.	/
$FILE_NAME_WITH_WILD_CARD_CHAR An external file name that either contains a wild card character or is too long.	123456789012345
$ILLEGAL_EXTERNAL_FILE_NAME1 Illegal external file name.	BAD_CHARACTER*↑
$ILLEGAL_EXTERNAL_FILE_NAME2 Illegal external file name.	MUCH-TOO-LONG-NAME-FOR-A-FILE

APPENDIX C

COMMAND SCRIPTS

```
# $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
# hs/9-August-1985
# $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
# Csh to define environment variables used by all tools
# $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
# Syntax :
#          source defnam
# Input   :
#          The env. variable CHAP must be set before calling this script
#          All the other variables will be set according to it.
# $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$

# $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
# Modifications :
# $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$


#
onintr -
# set common variables:
setenv PREDEFLIBRARY /bootstrap/adalibs/rt_full_lib
setenv ADA68K_MOD_STR /bootstrap/ade/LP_MESS
setenv ADA68K_ERR_TPL /bootstrap/ade/TEMPLATES
setenv ADA68K_BND_ERR $COM/BINDERROR.DAT
setenv COMPILE $EXE/ada
setenv BIND  $EXE/binder

setenv W /v16work
setenv W16COM /v16work/com
setenv W16RTS /v16work/commonwork/rts
setenv COMPILE_ONE /v16work/com/compile_one
setenv COMPILE_DEV /v16work/com/compile_dev
setenv COMPILE_B   /v16work/com/compile_b
setenv BIND_ONE    /v16work/com/bind_one
setenv BIND_MUL    /v16work/com/bind_mul
setenv BIND_DEV    /v16work/com/bind_dev

setenv OPTS    " -error_limit=999 -line=120 -short -banner -nosummary"
setenv OPTSDEV " -error_limit=999 -line=120 -long -banner -nosummary"
setenv OPTSB   " -error_limit=999 -line=120 -long -banner -nosummary"
setenv BINDOPT " "
#
# check chapter:
setenv SD /acvcv16/$(CHAP)
if (-e $SD) then
   ;
else
   echo "That's not an acvc chapter : " $(CHAP)
   exit
endif

#
#define chapter environment:
setenv WD /v16work/$(CHAP)work
setenv DD $WD/dia
setenv LD $WD/lis
setenv ADA68KLIB $WD/adalib/
setenv RESD /v16work/$(CHAP)results
setenv DIAREF $(SD)dia

#
```

```
# ---------------------------------------------------------------------
# Syntax :
#                compile_one a21001a ads
# $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$

echo "    ------------------------------------------- \c"
echo "Compiling " $1.$2

echo "    Compile time: \c"
time $COMPILE $SD/$1 $2 -lis=$LD/$1.lis $OPTS
```

```
# $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
# Syntax :
#                 compile_dev c86001f dep
# $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$

echo "   ---------------------------------------- \c"
echo "Compiling deviant " $1.$2

echo "   Compile time: \c"
time $COMPILE $SD/$1.$2 -lis=$LD/$1 lis $OPTSDEV
```

```
# $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
# Syntax :
#                compile_b b22001a.ada
# $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$

echo "   ---------------------------------------------- \c"
echo "Compiling B deviant " $1.$2

echo "   Compile time: \c"
time $COMPILE $SD/$1.$2 -lis=$LD/$1.lis $OPTSB
```

```
# $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
# Syntax :
#          bind_one xxx xxx.o
# $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$

echo "   ------------------------------------------- \c"
echo "Binding " $1

echo "   Bind time: \c"
time $BIND $1  -output= $WD/$1.0     $BINDOPT

if (-r $WD/$1.0) then
   ;
else
   echo "+++Binding of " $1 " failed, no ld done."
   exit
endif

# now link that test
echo "   Link time: \c"
time ld -n -o $WD/$1 $WD/$1.0    $U16RTS/libads_d.a -lc

# execute it :
echo "   Execution time: \c"
time $WD/$1 > $LD/$1.res

rm $WD/$1
rm $WD/$1.0
```

```
# $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
# Syntax :
#           bind_mul xxx xxx o
# $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$

echo "    ------------------------------------------ \c"
echo "Binding " $1

echo "   Bind time: \c"
time $BIND $1  -output= $WD/$1.O      $BINDOPT >& $LD/$1.bnd

if (-r $WD/$1.O) then
   ;
else
   echo "+++Binding of " $1 " failed, no ld done."
   exit
endif

# now link that test
echo "   Link time: \c"
time ld -n -o $WD/$1 $WD/$1.O    $W16RTS/libada_d.a -lc

# execute it :
echo "   Execution time: \c"
time $WD/$1 > $LD/$1.res

rm $WD/$1
rm $WD/$1.O
```

```
# $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
# Syntax :
#          bind_dev xxx xxx.o
# $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$

echo "    ----------------------------------------- \c"
echo "Binding " $1

echo "   Bind time: \c"
time $BIND $1  -output= $WD/$1.o     $BINDOPT >& $LD/$1.bnd

if (-r $WD/$1.O) then
   echo "+++Binding of " $1 " done, should not have."
else
   echo "+++Binding of " $1 " normally failed, no ld done."
endif
```

APPENDIX D

COMPLETE LIST OF TESTS AND RESULTS

This Appendix presents a complete list of the ACVC test files used in the validation attempt, presented in order by ACVC Implementers' Guide section and objective. Each test name indicates the class of the test and which test objective in the ACVC Implementers' Guide applies to the test.

Each test has a name that identifies the section of the Ada Standard addressed by the test objective. The name of a test is interpreted according to the table below, where the first column indicates the character position in the name and the second column, the meaning of that position:

POS	MEANING
1	Test class: A, B, C, D, E, L.
2	Implementers' Guide chapter number (in hexadecimal).
3	Implementers' Guide section number within a chapter (in Hexadecimal)
4	Implementers' Guide subsection number (in hexadecimal)
5-6	Implementers' Guide Test Objective number (in decimal)
7	Test sequence letter
8	[Optional] Compilation sequence digit or letter
9	[Optional] Main program designator in the case of a test having multiple compilation units.

Characters 8 and 9 are only present for tests that consist of several separately compiled units. A series of separately compiled units is counted as one test for reporting purposes. The eighth character indicates

the order in which the units are to be compiled, with unit 0 being compiled first. The ninth character is only present for a file containing a main program for a test comprising multiple files and is always M.

The suffix -AB means the test was written prior to release of the ANSI Standard and is also valid for the version of Ada published in July 1980. The suffix -B means the test was written specifically for the ANSI Standard. Tests without a suffix have not yet had their names revised to -AB.

A file name ending with the extension .TST indicates that the test depends on one or more of the implementation-dependent parameters listed in Appendix B. A file name ending with .DEP indicates that the test is not necessarily applicable to all implementations because it depends upon the support of language features that a compiler may legally not implement.

The result for each file in ACVC Version 1.6 is given in the following pages, where:

P indicates Passed.

F indicates Failed.

N/A indicates Not Applicable to this implementation.

W indicates Withdrawn due to test errors.

C indicates Compiled without error.

A indicates Anomalous.

A test may comprise several separate compilation units contained in two or more files; the names of such files are indented under the name of the test. The letter 'M' indicates which of these files contains the main procedure.

Support Units

CHECK_FILE-B.ADA	P
REPORT_SPEC-AB.ADA	P
REPORT_BODY-B.ADA	P
VAR_STRINGS_SPEC.ADA	P
VAR_STRINGS_BODY.ADA	P
CZ1101A-AB.ADA	P
CZ1102A-AB.ADA	P
CZ1103A-B.ADA	P
CZ1201A-AB.ADA	P
CZ1201B-AB.ADA	P
CZ1201C-AB.ADA	P
CZ1201D-AB.ADA	P

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A21001A.ADA	P	B23002A.ADA	P	C24113C-B.DEP	N/A
A22002A.ADA	P	B23003D-AB.TST	P	C24113D-B.DEP	N/A
A26004A.TST	P	B23003E-AB.TST	P	C24113E-B.DEP	N/A
A29002A-B.ADA	P	B23003F-AB.TST	P	C24113F-B.DEP	N/A
A29002B-B.ADA	P	B23004A.ADA	P	C24113G-B.DEP	N/A
A29002C-B.ADA	P	B23004B.ADA	P	C24113H-B.DEP	N/A
A29002D-B.ADA	P	B24001A.ADA	P	C24113I-B.DEP	N/A
A29002E-B.ADA	P	B24001B.ADA	P	C24113J-B.DEP	N/A
A29002F-B.ADA	P	B24001C.ADA	P	C24113K-B.DEP	N/A
A29002G-B.ADA	P	B24005A.ADA	P	C24113L-B.DEP	N/A
A29002H-B.ADA	P	B24005B.ADA	P	C24113M-B.DEP	N/A
A29002I-B.ADA	P	B24104A.ADA	P	C24113N-B.DEP	N/A
A29002J-B.ADA	P	B24104B.ADA	P	C24113O-B.DEP	N/A
B22001A-AB.TST	P	B24104C.ADA	P	C24113P-B.DEP	N/A
B22001B-AB.TST	P	B26002A.ADA	P	C24113Q-B.DEP	N/A
B22001C-AB.TST	P	B26005A.ADA	P	C24113R-B.DEP	N/A
B22001D-AB.TST	P	B29001A-B.ADA	P	C24113S-B.DEP	N/A
B22001E-AB.TST	P	C23001A.ADA	P	C24113T-B.DEP	N/A
B22001F-AB.TST	P	C23003A.TST	P	C24113U-B.DEP	N/A
B22001G-AB.TST	P	C24002A.ADA	P	C24113V-B.DEP	N/A
B22001H-AB.ADA	P	C24002B.ADA	P	C24113W-B.DEP	N/A
B22001I-AB.TST	P	C24002C.ADA	P	C24113X-B.DEP	N/A
B22001J-AB.TST	P	C24003A.TST	P	C24113Y-B.DEP	N/A
B22001K-AB.TST	P	C24003B.TST	P	C26002B.ADA	P
B22001L-AB.TST	P	C24003C.TST	P	C26006A-AB.ADA	P
B22001M-AB.TST	P	C24102A.ADA	P	C26008A-AB.ADA	P
B22001N-AB.TST	P	C24102B.ADA	P	C27001A-AB.ADA	P
B22003A.ADA	P	C24102C.ADA	P	C27002A-B.ADA	P
B22004A.ADA	P	C24103A.ADA	P	D29002K-B.ADA	P
B22004B.ADA	P	C24113A-B.DEP	P	E24101A-B.TST	P
B22004C.ADA	P	C24113B-B.DEP	P		

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A32203B-B.ADA	P	B37202A.ADA	P	C35504A-AB.ADA	P
A32203C-B.ADA	P	B37202B.ADA	P	C35504B-B.ADA	P
A32203D-B.ADA	P	B37203A.ADA	P	C35505A.ADA	P
A34008B-B.ADA	P	B37204A-AB.ADA	P	C35505B.ADA	P
A38106D-B.ADA	P	B37205A-AB.ADA	P	C35508A-AB.ADA	P
A38106E-B.ADA	P	B37301A.ADA	P	C35508B-B.ADA	P
B32103A-AB.ADA	P	B37301B.ADA	P	C35702A-AB.DEP	N/A
B32106A-B.ADA	P	B37302A-AB.ADA	P	C35702B-AB.DEP	N/A
B32201A-B.ADA	P	B37303A.ADA	P	C357_3A.ADA	P
B32202A-B.ADA	P	B37307B-AB.ADA	P	C35704A-AB.ADA	P
B32202B-B.ADA	P	B37309B-AB.ADA	P	C35704B-AB.ADA	P
B32202C-B.ADA	P	B37310B-B.ADA	P	C35704C-AB.ADA	P
B33001A.ADA	P	B37311A-AB.ADA	P	C35704D-AB.ADA	P
B33002A.ADA	P	B38001A.ADA	P	C35705A-B.DEP	P
B33003A.ADA	P	B38003A-AB.ADA	P	C35705B-B.DEP	P
B33003B-AB.ADA	P	B38008A-B.ADA	P	C35705C-B.DEP	N/A
B33003C-AB.ADA	P	B38008B-AB.ADA	P	C35705D-B.DEP	N/A
B33004A.ADA	P	B38101A-B.ADA	P	C35705E-B.DEP	N/A
B33006A-B.ADA	P	B38101B-AB.ADA	P	C35705F-B.DEP	N/A
B34001S-AB.ADA	P	B38103A-B.ADA	P	C35705G-B.DEP	N/A
B34008A-B.ADA	P	B38103B-B.ADA	P	C35705H-B.DEP	N/A
B35101A.ADA	P	B38103C-B.ADA	P	C35705I-B.DEP	N/A
B35301A.ADA	P	B38103C0	C	C35705J-B.DEP	N/A
B35501A.ADA	P	B38103C1	C	C35705K-B.DEP	N/A
B35506A.ADA	P	B38103C2	C	C35705L-B.DEP	N/A
B35506B.ADA	P	B38103C3M	C	C35705M-B.DEP	N/A
B35701A.TST	P	B38105A-AB.ADA	P	C35705N-B.DEP	N/A
B35709A.ADA	P	B38105B-AB.ADA	W	C35705O-B.DEP	N/A
B35A03A-B.ADA	P	B38106A-B.ADA	P	C35705P-B.DEP	N/A
B36101A-AB.ADA	P	B38106B-B.ADA	P	C35705Q-B.DEP	N/A
B36102A.ADA	P	C32107B-B.ADA	P	C35705R-B.DEP	N/A
B36103A.ADA	P	C32203A-B.ADA	P	C35705S-B.DEP	N/A
B36105A-B.ADA	P	C34001A-B.ADA	P	C35705T-B.DEP	N/A
B36171A-B.ADA	P	C34001B-B.ADA	P	C35705U-B.DEP	N/A
B36171B-B.ADA	P	C34001C-B.ADA	P	C35705V-B.DEP	N/A
B36171C-AB.ADA	P	C34001D-B.DEP	P	C35705W-B.DEP	N/A
B36171D-AB.ADA	P	C34001E-B.DEP	P	C35705X-B.DEP	N/A
B36171E-AB.ADA	P	C34001F-B.DEP	N/A	C35705Y-B.DEP	N/A
B36171F-AB.ADA	P	C34001G-B.DEP	N/A	C35706A-B.DEP	P
B36171G-AB.ADA	P	C34001H-B.ADA	P	C35706B-B.DEP	P
B36171H-AB.ADA	P	C34001I-B.ADA	P	C35706C-B.DEP	N/A
B36171I-AB.ADA	P	C34001K-B.ADA	P	C35706D-B.DEP	N/A
B36201A-B.ADA	P	C34001L-B.ADA	P	C35706E-B.DEP	N/A
B37003A-AB.ADA	P	C34001M-B.ADA	P	C35706F-B.DEP	N/A
B37004A-B.ADA	P	C34001N-B.ADA	P	C35706G-B.DEP	N/A
B37004B-B.ADA	P	C34001O-B.ADA	P	C35706H-B.DEP	N/A
B37004C-B.ADA	P	C34001P-B.ADA	P	C35706I-B.DEP	N/A
B37004D-B.ADA	P	C34001Q-B.ADA	P	C35706J-B.DEP	N/A
B37004E-B.ADA	P	C34001R-B.ADA	P	C35706K-B.DEP	N/A
B37004F-B.ADA	P	C34001T-B.ADA	P	C35706L-B.DEP	N/A
B37004G-B.ADA	P	C34002A-B.ADA	P	C35706M-B.DEP	N/A
B37101A.ADA	P	C34002B-B.ADA	P	C35706N-B.DEP	N/A
B37201A.ADA	P	C35104A.ADA	P	C35706O-B.DEP	N/A

C35706P-B.DEP	N/A	C35708K-B.DEP	N/A	C36205A.ADA	P
C35706Q-B.DEP	N/A	C35708L-B.DEP	N/A	C36205B.ADA	P
C35706R-B.DEP	N/A	C35708M-B.DEP	N/A	C36205C.ADA	P
C35706S-B.DEP	N/A	C35708N-B.DEP	N/A	C36205D.ADA	P
C35706T-B.DEP	N/A	C35708O-B.DEP	N/A	C36205E.ADA	P
C35706U-B.DEP	N/A	C35708P-B.DEP	N/A	C36205F.ADA	P
C35706V-B.DEP	N/A	C35708Q-B.DEP	N/A	C36205G.ADA	P
C35706W-B.DEP	N/A	C35708R-B.DEP	N/A	C36205H.ADA	P
C35706X-B.DEP	N/A	C35708S-B.DEP	N/A	C36205I.ADA	P
C35706Y-B.DEP	N/A	C35708T-B.DEP	N/A	C36205J.ADA	P
C35707A-B.DEP	P	C35708U-B.DEP	N/A	C36205K.ADA	P
C35707B-B.DEP	P	C35708V-B.DEP	N/A	C36301A-B.ADA	P
C35707C-B.DEP	N/A	C35708W-B.DEP	N/A	C36301B-AB.ADA	P
C35707D-B.DEP	N/A	C35708X-B.DEP	N/A	C36302A.ADA	P
C35707E-B.DEP	N/A	C35708Y-B.DEP	N/A	C36303A.ADA	P
C35707F-B.DEP	N/A	C35711A-B.ADA	P	C36304A-B.ADA	P
C35707G-B.DEP	N/A	C35802A-B.DEP	P	C36305A-AB.ADA	P
C35707H-B.DEP	N/A	C35802B-B.DEP	P	C37005A.ADA	P
C35707I-B.DEP	N/A	C35802C-B.DEP	N/A	C37007A-AB.ADA	P
C35707J-B.DEP	N/A	C35802D-B.DEP	N/A	C37008A-B.ADA	P
C35707K-B.DEP	N/A	C35802E-B.DEP	N/A	C37008B-B.ADA	P
C35707L-B.DEP	N/A	C35802F-B.DEP	N/A	C37011A-B.ADA	P
C35707M-B.DEP	N/A	C35802G-B.DEP	N/A	C37012A-AB.ADA	P
C35707N-B.DEP	N/A	C35802H-B.DEP	N/A	C37013A-AB.ADA	P
C35707O-B.DEP	N/A	C35802I-B.DEP	N/A	C37103A-AB.ADA	P
C35707P-B.DEP	N/A	C35802J-B.DEP	N/A	C37105A.ADA	P
C35707Q-B.DEP	N/A	C35802K-B.DEP	N/A	C37208A-B.ADA	P
C35707R-B.DEP	N/A	C35802L-B.DEP	N/A	C37208B-AB.ADA	P
C35707S-B.DEP	N/A	C35802M-B.DEP	N/A	C37209A.ADA	P
C35707T-B.DEP	N/A	C35802N-B.DEP	N/A	C37304A-AB.ADA	P
C35707U-B.DEP	N/A	C35802O-B.DEP	N/A	C37305A.ADA	P
C35707V-B.DEP	N/A	C35802P-B.DEP	N/A	C37306A.ADA	P
C35707W-B.DEP	N/A	C35802Q-B.DEP	N/A	C37307A-AB.ADA	P
C35707X-B.DEP	N/A	C35802R-B.DEP	N/A	C37309A-AB.ADA	P
C35707Y-B.DEP	N/A	C35802S-B.DEP	N/A	C37310A-AB.ADA	P
C35708A-B.DEP	P	C35802T-B.DEP	N/A	C38004A.ADA	P
C35708B-B.DEP	P	C35802U-B.DEP	N/A	C38005A-B.ADA	P
C35708C-B.DEP	N/A	C35802V-B.DEP	N/A	C38006A-B.ADA	P
C35708D-B.DEP	N/A	C35802W-B.DEP	N/A	C38007A-B.ADA	P
C35708E-B.DEP	N/A	C35802X-B.DEP	N/A	C38102A-AB.ADA	P
C35708F-B.DEP	N/A	C35802Y-B.DEP	N/A	C38102B-B.ADA	P
C35708G-B.DEP	N/A	C35904A-B.ADA	P	C38102C-B.ADA	P
C35708H-B.DEP	N/A	C36172A-B.ADA	P	E36202A-B.ADA	P
C35708I-B.DEP	N/A	C36174A-B.ADA	P	E36202B-B.ADA	P
C35708J-B.DEP	N/A	C36204A-B.ADA	P	E38104A-B.ADA	P

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B41101A-B.ADA P
B41101C-AB.ADA P
B41102A-AB.ADA P
B41102B-B.ADA P
B41102C-B.ADA P
B41201A-B.ADA P
B41201C.ADA P
B41202A-B.ADA P
B41202B-AB.ADA P
B41202C-B.ADA P
B41202D-B.ADA P
B41302A-AB.ADA P
B41302B-AB.ADA P
B42004A-B.ADA P
B43101A-B.ADA P
B43201A-B.ADA P
B43201B-B.ADA P
B43201C-B.ADA P
B43201D-B.ADA P
B43202A-B.ADA P
B43202B-B.ADA P
B43202C-B.ADA P
B43203A-B.ADA P
B43203B-B.ADA P
B44001A-B.ADA P
B44002A-B.ADA P
B44002B-B.ADA P
B44002C.ADA P
B45102A-AB.ADA P
B45203A.ADA P
B45203B-AB.ADA P
B45205A-AB.ADA P
B45206A-AB.ADA P
B45206B-B.ADA P
B45207A-AB.ADA P
B45207B-B.ADA P
B45207C-B.ADA P
B45207D-B.ADA P
B45207G-B.ADA P
B45207H-B.ADA P
B45207I-B.ADA P
B45207J-B.ADA P
B45207M-AB.ADA P
B45207N-AB.ADA P
B45207O-AB.ADA P
B45207P-B.ADA P
B45207S-AB.ADA P
B45207T-AB.ADA P
B45207U-AB.ADA P
B45207V-B.ADA P
B45208A-AB.ADA P
B45208B-B.ADA P
B45208C-B.ADA P
B45208G-AB.ADA P
B45208H-B.ADA P
B45208I-B.ADA P
B45208M-AB.ADA P
B45208N-AB.ADA P
B45208S-AB.ADA P
B45208T-AB.ADA P
B45261A-AB.ADA P
B45261B-AB.ADA P
B45261C-AB.ADA P
B45261D-AB.ADA P
B45402A.ADA P
B45522A.ADA P
B45533A-AB.ADA P
B48001A-B.ADA P
B48001B-B.ADA P
B48002A-B.ADA P
B48002B-B.ADA P
B48002C-B.ADA P
B48002D-B.ADA P
B48002E-B.ADA P
B48002F-B.ADA P
B48002G-B.ADA P
B48003A-B.ADA P
B48003B-B.ADA P
B48003C-B.ADA P
B48003D-B.ADA P
B48003E-B.ADA P
B4A006A-B.ADA P
B4A016A.ADA P
C41101D-B.ADA P
C41103A-B.ADA P
C41103B-B.ADA P
C41105A-B.ADA P
C41106A-B.ADA P
C41107A-AB.ADA P
C41201D-B.ADA P
C41203A-B.ADA P
C41203B-B.ADA P
C41204A.ADA P
C41205A-B.ADA P
C41206A.ADA P
C41301A-B.ADA P
C41303A-B.ADA P
C41303B-B.ADA P
C41303C-B.ADA P
C41303E-B.ADA P
C41303F-B.ADA P
C41303G-B.ADA P
C41303I-B.ADA P
C41303J-B.ADA P
C41303K-B.ADA P
C41303M-B.ADA P
C41303N-B.ADA P
C41303O-B.ADA P
C41303Q-B.ADA P
C41303R-B.ADA P
C41303S-B.ADA P
C41303U-B.ADA P
C41303V-B.ADA P
C41303W-B.ADA P
C41304A-B.ADA P
C41306A-B.ADA P
C41306B-B.ADA P
C41306C-B.ADA P
C42005A-B.ADA P
C42006A-B.ADA P
C43103A-B.ADA P
C43103B-B.ADA P
C43107A-B.ADA P
C43205A-B.ADA P
C43205B-B.ADA P
C43205C-B.ADA P
C43205D-B.ADA P
C43205E-B.ADA P
C43205F-B.ADA P
C43205G-B.ADA P
C43205H-B.ADA P
C43205I-B.ADA P
C43205J-B.ADA P
C43205K-B.ADA P
C43206A-B.ADA P
C43207A-B.ADA P
C43207B-B.ADA P
C43207C-B.ADA P
C43207D-B.ADA P
C43208A-B.ADA P
C43208B-B.ADA P
C43210A-B.ADA P
C43211A-B.ADA P
C43212A-B.ADA P
C43212C-B.ADA P
C43213A-B.ADA P
C43214A-B.ADA P
C43214B-B.ADA P
C43214C-B.ADA P
C43214D-B.ADA P
C43214E-B.ADA P
C43214F-B.ADA P
C43215A-B.ADA P
C43215B-B.ADA P
C45101A.ADA P
C45101B.ADA P
C45101C.ADA P
C45101E.ADA P
C45101G-AB.ADA P

C45101H-AB.ADA	P	C45321K-B.DEP	N/A	C45424J-B.DEP	N/A
C45101I.ADA	P	C45321L-B.DEP	N/A	C45424K-B.DEP	N/A
C45103A-AB.ADA	P	C45321M-B.DEP	N/A	C45424L-B.DEP	N/A
C45103B-AB.ADA	P	C45321N-B.DEP	N/A	C45424M-B.DEP	N/A
C45103C-AB.ADA	P	C45321O-B.DEP	N/A	C45424N-B.DEP	N/A
C45104A.ADA	P	C45321P-B.DEP	N/A	C45424O-B.DEP	N/A
C45105A-AB.ADA	P	C45321Q-B.DEP	N/A	C45424P-B.DEP	N/A
C45105B-B.ADA	P	C45321R-B.DEP	N/A	C45424Q-B.DEP	N/A
C45106A.ADA	P	C45321S-B.DEP	N/A	C45424R-B.DEP	N/A
C45201A.ADA	P	C45321T-B.DEP	N/A	C45424S-B.DEP	N/A
C45201B.ADA	P	C45321U-B.DEP	N/A	C45424T-B.DEP	N/A
C45202A-AB.ADA	P	C45321V-B.DEP	N/A	C45424U-B.DEP	N/A
C45210A.ADA	P	C45321W-B.DEP	N/A	C45424V-B.DEP	N/A
C45220A.ADA	P	C45321X-B.DEP	N/A	C45424W-B.DEP	N/A
C45220B.ADA	P	C45321Y-B.DEP	N/A	C45424X-B.DEP	N/A
C45220C.ADA	P	C45342A-AB.ADA	P	C45424Y-B.DEP	N/A
C45220D.ADA	P	C45343A-AB.ADA	P	C45505A-B.ADA	P
C45220E-B.ADA	P	C45345A-AB.ADA	P	C45521A-B.DEP	W
C45241A-B.DEP	P	C45345B-AB.ADA	P	C45521B-B.DEP	W
C45241B-B.DEP	P	C45345C-AB.ADA	P	C45521C-B.DEP	W
C45241C-B.DEP	N/A	C45345D-AB.ADA	P	C45521D-B.DEP	W
C45241D-B.DEP	N/A	C45401A.ADA	P	C45521E-B.DEP	W
C45241E-B.DEP	N/A	C45401B-AB.ADA	P	C45521F-B.DEP	W
C45241F-B.DEP	N/A	C45413A-B.ADA	P	C45521G-B.DEP	W
C45241G-B.DEP	N/A	C45421A-B.DEP	P	C45521H-B.DEP	W
C45241H-B.DEP	N/A	C45421B-B.DEP	P	C45521I-B.DEP	W
C45241I-B.DEP	N/A	C45421C-B.DEP	N/A	C45521J-B.DEP	W
C45241J-B.DEP	N/A	C45421D-B.DEP	N/A	C45521K-B.DEP	W
C45241K-B.DEP	N/A	C45421E-B.DEP	N/A	C45521L-B.DEP	W
C45241L-B.DEP	N/A	C45421F-B.DEP	N/A	C45521M-B.DEP	W
C45241M-B.DEP	N/A	C45421G-B.DEP	N/A	C45521N-B.DEP	W
C45241N-B.DEP	N/A	C45421H-B.DEP	N/A	C45521O-B.DEP	W
C45241O-B.DEP	N/A	C45421I-B.DEP	N/A	C45521P-B.DEP	W
C45241P-B.DEP	N/A	C45421J-B.DEP	N/A	C45521Q-B.DEP	W
C45241Q-B.DEP	N/A	C45421K-B.DEP	N/A	C45521R-B.DEP	W
C45241R-B.DEP	N/A	C45421L-B.DEP	N/A	C45521S-B.DEP	W
C45241S-B.DEP	N/A	C45421M-B.DEP	N/A	C45521T-B.DEP	W
C45241T-B.DEP	N/A	C45421N-B.DEP	N/A	C45521U-B.DEP	W
C45241U-B.DEP	N/A	C45421O-B.DEP	N/A	C45521V-B.DEP	W
C45241V-B.DEP	N/A	C45421P-B.DEP	N/A	C45521W-B.DEP	W
C45241W-B.DEP	N/A	C45421Q-B.DEP	N/A	C45521X-B.DEP	W
C45241X-B.DEP	N/A	C45421R-B.DEP	N/A	C45521Y-B.DEP	W
C45241Y-B.DEP	N/A	C45421S-B.DEP	N/A	C45526A-B.ADA	P
C45264A-B.ADA	P	C45421T-B.DEP	N/A	C45621A.DEP	P
C45274A-AB.ADA	P	C45421U-B.DEP	N/A	C45621B.DEP	P
C45274B-AB.ADA	P	C45421V-B.DEP	N/A	C45621C.DEP	N/A
C45274C-AB.ADA	P	C45421W-B.DEP	N/A	C45621D.DEP	N/A
C45303A-B.ADA	P	C45421X-B.DEP	N/A	C45621E.DEP	N/A
C45321A-B.DEP	P	C45421Y-B.DEP	N/A	C45621F.DEP	N/A
C45321B-B.DEP	P	C45424A-B.DEP	P	C45621G.DEP	N/A
C45321C-B.DEP	N/A	C45424B-B.DEP	P	C45621H.DEP	N/A
C45321D-B.DEP	N/A	C45424C-B.DEP	N/A	C45621I.DEP	N/A
C45321E-B.DEP	N/A	C45424D-B.DEP	N/A	C45621J.DEP	N/A
C45321F-B.DEP	N/A	C45424E-B.DEP	N/A	C45621K.DEP	N/A
C45321G-B.DEP	N/A	C45424F-B.DEP	N/A	C45621L.DEP	N/A
C45321H-B.DEP	N/A	C45424G-B.DEP	N/A	C45621M.DEP	N/A
C45321I-B.DEP	N/A	C45424H-B.DEP	N/A	C45621N.DEP	N/A
C45321J-B.DEP	N/A	C45424I-B.DEP	N/A	C45621O.DEP	N/A

C45621P.DEP	N/A	C48005B-B.ADA	P	C48009H-B.ADA	P
C45621Q.DEP	N/A	C48005C-B.ADA	W	C48009I-B.ADA	P
C45621R.DEP	N/A	C48006A-B.ADA	P	C48009J-B.ADA	P
C45621S.DEP	N/A	C48006B-B.ADA	W	C48010A-B.ADA	P
C45621T.DEP	N/A	C48007A-B.ADA	P	C48012A-B.ADA	P
C45621U.DEP	N/A	C48007B-B.ADA	P	C4A001A.ADA	P
C45621V.DEP	N/A	C48007C-B.ADA	P	C4A003A.ADA	P
C45621W.DEP	N/A	C48008A-B.ADA	P	C4A011A.ADA	P
C45621X.DEP	N/A	C48008B-B.ADA	P	C4A010A-B.ADA	P
C45621Y.DEP	N/A	C48008C-B.ADA	P	C4A013A.ADA	P
C45621Z.DEP	N/A	C48008D-B.ADA	P	D4A002A-AB.ADA	P
C48004A-B.ADA	P	C48009A-B.ADA	P	D4A002B.ADA	P
C48004B-B.ADA	P	C48009B-B.ADA	P	D4A004A-AB.ADA	P
C48004C-B.ADA	P	C48009C-B.ADA	P	D4A004B.ADA	P
C48004D-B.ADA	P	C48009D-B.ADA	P	E43211B-B.ADA	P
C48004E-B.ADA	P	C48009E-B.ADA	P	E43212B-B.ADA	P
C48004F-B.ADA	P	C48009F-B.ADA	P		
C48005A-B.ADA	P	C48009G-B.ADA	P		

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A54B01A-B.ADA	P	B54A27D-AB.ADA	P	B58002B-AB.ADA	P
A54B02A-B.ADA	P	B54B01B-B.TST	P	B58002C-AB.ADA	P
A55B12A-AB.ADA	P	B54B01C-B.ADA	P	B58003A-B.ADA	P
A55B13A-AB.ADA	P	B54B02B-B.ADA	P	B58003B-AB.ADA	P
A55B14A-AB.ADA	P	B54B02C-B.ADA	P	B59001A-AB.ADA	P
B51001A-AB.ADA	P	B54B02D-B.ADA	P	B59001C-AB.ADA	P
B51003A-AB.ADA	P	B54B04A-AB.ADA	P	B59001D-AB.ADA	P
B51004B-B.ADA	P	B54B04B-AB.ADA	P	B59001E-AB.ADA	P
B51004C-B.ADA	P	B54B05A-AB.ADA	P	B59001F-AB.ADA	P
B52002A-B.ADA	P	B55A01A-AB.ADA	P	B59001G-AB.ADA	P
B52002B-AB.ADA	P	B55A01B-AB.ADA	P	B59001H-AB.ADA	P
B52002C-AB.ADA	P	B55A01C-AB.ADA	P	B59001I-AB.ADA	P
B52002D-AB.ADA	P	B55A01D-AB.ADA	P	C51002A-AB.ADA	P
B52002E-AB.ADA	P	B55A01E-AB.ADA	P	C51004A-B.ADA	P
B52002F-B.ADA	P	B55A01F-AB.ADA	P	C52001A-B.ADA	P
B52002G-AB.ADA	P	B55A01G-AB.ADA	P	C52001B-AB.ADA	P
B52003A-AB.ADA	P	B55A01H-AB.ADA	P	C52001C-AB.ADA	P
B52003B-AB.ADA	P	B55A01I-AB.ADA	P	C52005A-AB.ADA	P
B52003C-AB.ADA	P	B55A01J-AB.ADA	P	C52005B-AB.ADA	P
B52004A-B.ADA	P	B55A01K-AB.ADA	P	C52005C-AB.ADA	P
B52004B-AB.ADA	P	B55A01L-AB.ADA	P	C52005D-AB.ADA	P
B52004C-AB.ADA	P	B55A01M-AB.ADA	P	C52005E-AB.ADA	P
B52004D-AB.DEP	P	B55A01N-AB.ADA	P	C52005F-AB.ADA	P
B52004E-AB.DEP	P	B55A01O-AB.ADA	P	C52007A-B.ADA	P
B52006A-AB.ADA	P	B55A01P-AB.ADA	P	C52008A-AB.ADA	P
B53001A-AB.ADA	P	B55A01Q-AB.ADA	P	C52008B-B.ADA	P
B53001B-AB.ADA	P	B55A01R-AB.ADA	P	C52009A-B.ADA	P
B53002A-AB.ADA	P	B55A01S-AB.ADA	P	C52009B-B.ADA	P
B53002B-AB.ADA	P	B55A01T-AB.ADA	P	C52010A-AB.ADA	P
B53003A-AB.ADA	P	B55A01U-AB.ADA	P	C52011A-B.ADA	P
B53004A-AB.ADA	P	B55A01V-AB.ADA	P	C52011B-AB.ADA	P
B53009A-AB.ADA	P	B55B01A-AB.ADA	P	C52012A-AB.ADA	P
B53009B-AB.ADA	P	B55B01B-AB.ADA	P	C52012B-AB.ADA	P
B53009C-AB.ADA	P	B55B09B-AB.ADA	P	C52013A-B.ADA	P
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B54A01C-AB.ADA	P	B55B12B-B.ADA	P	C52102B-AB.ADA	P
B54A01D-AB.ADA	P	B55B12C-AB.ADA	P	C52102C-AB.ADA	P
B54A01E-AB.ADA	P	B55B14B-B.ADA	P	C52102D-AB.ADA	P
B54A01F-AB.ADA	P	B55B18A-B.ADA	P	C52103A-AB.ADA	P
B54A01G-AB.ADA	P	B56001A-AB.ADA	P	C52103B-AB.ADA	P
B54A01H-AB.ADA	P	B56001C-AB.ADA	P	C52103C-AB.ADA	P
B54A01I-AB.ADA	P	B56001D-AB.ADA	P	C52103F-AB.ADA	P
B54A01J-AB.ADA	P	B56001E-AB.ADA	P	C52103G-AB.ADA	P
B54A01K-AB.ADA	P	B56001F-AB.ADA	P	C52103H-AB.ADA	P
B54A01L-AB.ADA	P	B56001G-AB.ADA	P	C52103K-AB.ADA	P
B54A05A.ADA	P	B56001H-AB.ADA	P	C52103L-AB.ADA	P
B54A05B.ADA	P	B57001A-AB.ADA	P	C52103M-AB.ADA	P
B54A08A-B.ADA	P	B57001B-B.ADA	P	C52103P-AB.ADA	P
B54A20A.ADA	P	B57001C-AB.ADA	P	C52103Q-AB.ADA	P
B54A21A-B.ADA	P	B57001D-AB.ADA	P	C52103R-AB.ADA	P
B54A25A-B.ADA	P	B58001A-AB.ADA	P	C52103S-B.ADA	P
B54A27B-AB.ADA	P	B58002A-B.ADA	P	C52103X-B.ADA	N/A

C52104A-AB.ADA	P	C54A27A-AB.ADA	P	C57004B-AB.ADA	P
C52104B-AB.ADA	P	C54A41A.ADA	P	C57004C-AB.ADA	P
C52104C-AB.ADA	P	C54A42A.ADA	P	C57005A-B.ADA	P
C52104F-AB.ADA	P	C54A42B.ADA	P	C58004A-AB.ADA	P
C52104G-AB.ADA	P	C54A42C.ADA	P	C58004B-AB.ADA	P
C52104H-AB.ADA	P	C54A42D.ADA	P	C58004C-AB.ADA	P
C52104K-AB.ADA	P	C54A42E.ADA	P	C58004D-B.ADA	P
C52104L-AB.ADA	P	C54A42F.ADA	P	C58004F-AB.ADA	P
C52104M-AB.ADA	P	C54A42G.ADA	P	C58004G-AB.ADA	P
C52104P-AB.ADA	P	C55B03A-AB.ADA	P	C58005A-AB.ADA	P
C52104Q-AB.ADA	P	C55B04A-AB.ADA	P	C58005B-AB.ADA	P
C52104R-AB.ADA	P	C55B05A-AB.ADA	P	C58005H-AB.ADA	P
C52104X-B.ADA	N/A	C55B06A-AB.ADA	P	C58006A-AB.ADA	P
C52104Y-B.ADA	N/A	C55B06B-AB.ADA	P	C58006B-AB.ADA	P
C53004B-B.ADA	P	C55B07A-AB.DEP	P	C59001B-AB.ADA	P
C53005A-AB.ADA	P	C55B07B-AB.DEP	P	C59002A-AB.ADA	P
C53005B-AB.ADA	P	C55B08A-B.ADA	P	C59002B-AB.ADA	P
C53006A-AB.ADA	P	C55B09A-AB.ADA	P	C59002C-B.ADA	P
C53006B-AB.ADA	P	C55B15A-B.ADA	P	D55A03A-AB.ADA	P
C53007A-AB.ADA	P	C55B16A-AB.DEP	N/A	D55A03B-AB.ADA	P
C53008A-AB.ADA	P	C55C01A-B.ADA	P	D55A03C-AB.ADA	P
C54A03A.ADA	P	C55C02A-AB.ADA	P	D55A03D-AB.ADA	P
C54A04A-AB.ADA	P	C55C02B-AB.ADA	P	D55A03E-AB.ADA	P
C54A06A-AB.ADA	P	C55C03A-AB.ADA	P	D55A03F-AB.ADA	P
C54A07A-AB.ADA	P	C55C03B-AB.ADA	P	D55A03G-AB.ADA	P
C54A22A-AB.ADA	P	C55D01A-AB.ADA	P	D55A03H-AB.ADA	P
C54A23A-B.ADA	P	C56002A-AB.ADA	P	D56001B-AB.ADA	P
C54A24A-AB.ADA	P	C57002A-AB.ADA	P	E52103Y-B.ADA	P
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A62006D-B.ADA	P	B64002A-B.ADA	P	C64104B-AB.ADA	P
A63202A-AB.ADA	P	B64002C-B.ADA	P	C64104C-AB.ADA	P
B61001A-AB.ADA	P	B64003A-B.ADA	P	C64104D-AB.ADA	P
B61001B-AB.ADA	P	B64004A-B.ADA	P	C64104E-AB.ADA	P
B61001C-AB.ADA	P	B64004B-B.ADA	P	C64104F-AB.ADA	P
B61001D-AB.ADA	P	B64004C-B.ADA	P	C64104G-AB.ADA	P
B61001E-AB.ADA	P	B64004D-B.ADA	P	C64104H-B.ADA	P
B61001F-AB.ADA	P	B64004E-B.ADA	P	C64104I-B.ADA	P
B61001G-AB.ADA	P	B64004F-B.ADA	P	C64104J-B.ADA	P
B61001H-AB.ADA	P	B64006A-B.ADA	P	C64104K-AB.ADA	P
B61001I-AB.ADA	P	B64101A-B.ADA	P	C64104L-AB.ADA	P
B61001J-AB.ADA	P	B64201A-B.ADA	P	C64104M-AB.ADA	P
B61001K-AB.ADA	P	B65001A-B.ADA	P	C64104N-B.ADA	P
B61001L-AB.ADA	P	B65002A-AB.ADA	P	C64104O-B.ADA	P
B61001M-AB.ADA	P	B65002B-AB.ADA	P	C64105A-AB.ADA	P
B61001N-AB.ADA	P	B66001A-B.ADA	W	C64105B-AB.ADA	P
B61001O-AB.ADA	P	B66001B-B.ADA	P	C64105C-AB.ADA	P
B61001P-AB.ADA	P	B66001C-B.ADA	P	C64105D-AB.ADA	P
B61001Q-AB.ADA	P	B67001A-B.ADA	W	C64105E-AB.ADA	W
B61001R-AB.ADA	P	B67001B-B.ADA	P	C64105F-AB.ADA	W
B61001S-AB.ADA	P	B67001C-B.ADA	P	C64106A-B.ADA	P
B61001T-AB.ADA	P	B67001D-B.ADA	P	C64106B-B.ADA	P
B61001U-AB.ADA	P	B67001E-B.ADA	P	C64106C-B.ADA	P
B61001V-AB.ADA	P	B67001F-B.ADA	P	C64106D-B.ADA	P
B61001W-AB.ADA	P	B67001G-B.ADA	P	C64107A-B.ADA	P
B61003A-AB.ADA	P	B67004A-B.ADA	W	C64108A-B.ADA	P
B61006A-B.ADA	P	C61003B-AB.ADA	P	C64201B-B.ADA	P
B61011A-B.ADA	P	C61008A-B.ADA	P	C64201C-B.ADA	P
B61012A-B.ADA	P	C61009A-B.ADA	P	C64202A-B.ADA	P
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B62001C-AB.ADA	P	C62003A-B.ADA	P	C66002A-B.ADA	P
B62001D-AB.ADA	P	C62003B-B.ADA	P	C66002C-AB.ADA	P
B62006B-B.ADA	P	C62004A-AB.ADA	P	C66002D-AB.ADA	P
B62006C-B.ADA	P	C62006A-B.ADA	P	C66002E-AB.ADA	P
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B62006F-B.ADA	P	C64002B-B.ADA	P	C66002G-B.ADA	P
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B63001B-AB.ADA	P	C64005A-B.ADA	P	C67002B-B.ADA	P
B63005A-AB.ADA	P	C64005B-B.ADA	P	C67002C-B.ADA	P
B63005B-AB.ADA	P	C64005C-B.ADA	P	C67002D-B.ADA	P
B63005C-AB.ADA	P	C64005D-B.ADA	P	C67002E-B.ADA	P
B63009A-B.ADA	P	C64005D0M	C	C67003A-B.ADA	P
B63009B-B.ADA	P	C64005DA	C	C67003B-B.ADA	P
B63009C-B.ADA	P	C64005DB	C	C67003C-AB.ADA	P
B63009C0	C	C64005DC	C	C67003D-B.ADA	P
B63009C1	C	C64103A-B.ADA	P	C67003E-AB.ADA	P
B63009C2	C	C64103B-B.ADA	P	C67005A-B.ADA	P
B63009C3M	C	C64103C-B.ADA	W	C67005B-B.ADA	P
B63010A-AB.ADA	P	C64103D-B.ADA	W	C67005C-B.ADA	P
B63102A-B.ADA	P	C64103E-B.ADA	P	C67005D-B.ADA	P
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B64001A-B.ADA	P	C64104A-AB.ADA	P	D64005E0M	C

D64005EA	C	D64005FF	C	D64005GG	C
D64005EB	C	D64005FG	C	D64005GH	C
D64005EC	C	D64005FH	C	D64005GI	C
D64005ED	C	D64005FI	C	D64005GJ	C
D64005EE	C	D64005FJ	C	D64005GK	C
D64005EF	C	D64005G-B.ADA	N/A	D64005GL	C
D64005F-B.ADA	P	D64005G0M	C	D64005GM	C
D64005F0M	C	D64005GA	C	D64005GN	C
D64005FA	C	D64005GB	C	D64005GO	C
D64005FB	C	D64005GC	C	D64005GP	C
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D64005FD	C	D64005GE	C		
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A71004A-AB.ADA	P	B71001R-AB.ADA	P	B74105C-B.ADA	P
A72001A-AB.ADA	P	B71001T-AB.ADA	P	B74201A-AB.ADA	P
A73001I-AB.ADA	P	B71001U-AB.ADA	P	B74205A-B.ADA	P
A73001J-AB.ADA	P	B71001V-AB.ADA	P	B74205B-B.ADA	P
A74006A-AB.ADA	P	B71001W-AB.ADA	P	B74207A-B.ADA	W
A74105B-B.ADA	P	B71002B-AB.ADA	P	B74301A-B.ADA	P
A74106A-AB.ADA	P	B73001A-AB.ADA	P	B74304A-B.ADA	P
A74106B-AB.ADA	P	B73001B-AB.ADA	P	B74304B-B.ADA	P
A74106C-AB.ADA	P	B73001C-B.ADA	P	B74304C-B.ADA	P
A74205E-B.ADA	P	B73001D-B.ADA	P	B74401A-B.ADA	P
A74205F-B.ADA	P	B73001E-AB.ADA	P	B74401B-B.ADA	P
B71001A-AB.ADA	P	B73001F-AB.ADA	P	B74409A-B.ADA	P
B71001B-AB.ADA	P	B73001G-B.ADA	P	C72001B-AB.ADA	P
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B71001D-AB.ADA	P	B73006A-AB.ADA	P	C74206A-B.ADA	P
B71001E-AB.ADA	P	B74001A-AB.ADA	P	C74207B-B.ADA	P
B71001F-AB.ADA	P	B74001B-AB.ADA	P	C74209A-AB.ADA	P
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B71001H-AB.ADA	P	B74101A-B.ADA	P	C74211A-B.ADA	P
B71001I-AB.ADA	P	B74103A-B.ADA	P	C74211B-B.ADA	P
B71001J-AB.ADA	P	B74103B-B.ADA	P	C74302A-B.ADA	P
B71001K-AB.ADA	P	B74103C-B.ADA	P	C74305A-B.ADA	P
B71001L-AB.ADA	P	B74103D-B.ADA	P	C74305B-B.ADA	P
B71001M-AB.ADA	P	B74103E-B.ADA	P	C74402A-B.ADA	P
B71001N-AB.ADA	P	B74103F-B.ADA	W	C74402B-B.ADA	P
B71001O-AB.ADA	P	B74103G-B.ADA	P	C74409B-B.ADA	P
B71001P-AB.ADA	P	B74104A-B.ADA	P		

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A83A02A.ADA	P	B86001BO-B.ADA	P	C87A05A-B.ADA	P
A83A02B.ADA	P	B86001BU-B.ADA	P	C87A05B-B.ADA	P
A83A06A-B.ADA	P	B86001BV-B.ADA	P	C87B02A-B.ADA	P
A83C01C.ADA	P	B86001BW-B.ADA	P	C87B02B-B.ADA	P
A83C01D.ADA	P	B86001BX-B.ADA	P	C87B03A-B.ADA	P
A83C01E.ADA	P	B86001C0M-AB.DEP	P	C87B04A-B.ADA	P
A83C01F.ADA	P	B86001CP-AB.DEP	N/A	C87B04B-B.ADA	P
A83C01G.ADA	P	B86001CQ-AB.DEP	N/A	C87B04C-B.ADA	P
A83C01H.ADA	P	B86001CR-AB.DEP	P	C87B05A-B.ADA	P
A83C01I.ADA	P	B86001CS-AB.DEP	P	C87B06A-B.ADA	P
A83C01J.ADA	P	B86001D0M-AB.TST	P	C87B07A-B.ADA	P
A85007D-B.ADA	P	B86001DT-AB.TST	N/A	C87B07B-B.ADA	P
A85013B-B.ADA	P	B87B23B-B.ADA	P	C87B07C-B.ADA	P
B83A01A-AB.ADA	P	B87B48C-B.ADA	P	C87B07D-B.ADA	P
B83A01B-B.ADA	P	C83B02A.ADA	P	C87B07E-B.ADA	P
B83A01C.ADA	P	C83B02B.ADA	P	C87B08A-B.ADA	P
B83A05A-AB.ADA	P	C83C01B.ADA	P	C87B09A-B.ADA	P
B83A06B-B.ADA	P	C83E02A.ADA	P	C87B09B-B.ADA	P
B83A06H-B.ADA	P	C83E02B.ADA	P	C87B09C-B.ADA	P
B83B01A-AB.ADA	P	C83E03A.ADA	P	C87B10A-B.ADA	P
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B83F02B.ADA	P	C83F01C1	P	C87B14C-B.ADA	P
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B84001A-AB.ADA	P	C83F01D.ADA	P	C87B15A-B.ADA	P
B84002B-B.ADA	P	C83F01D0M	P	C87B16A-B.ADA	P
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B85007B-B.ADA	P	C83F03B.ADA	P	C87B18B-B.ADA	P
B85007C-B.ADA	P	C83F03C.ADA	P	C87B19A-B.ADA	P
B85012A-B.ADA	P	C83F03C0	P	C87B23A-B.ADA	P
B85013C-B.ADA	P	C83F03C1	P	C87B24A-B.ADA	P
B85015A-B.ADA	P	C83F03C2M	P	C87B24B-B.ADA	P
B86001A-AB.ADA	P	C83F03D.ADA	P	C87B26B-B.ADA	P
B86001A0	P	C83F03D0M	P	C87B27A-B.ADA	P
B86001A1M	P	C83F03D1	P	C87B28A-B.ADA	P
B86001B0M	P	C84002A-B.ADA	P	C87B29A-B.ADA	P
B86001BA-B.ADA	P	C85007A-B.ADA	P	C87B30A-B.ADA	P
B86001BB-B.ADA	P	C85007E-B.ADA	P	C87B31A-B.ADA	P
B86001BC-B.ADA	P	C85013A-B.ADA	P	C87B32A-B.ADA	P
B86001BD-B.ADA	P	C86001E-B.ADA	P	C87B33A-B.ADA	P
B86001BE-B.ADA	P	C86001F-B.DEP	N/A	C87B34A-B.ADA	P
B86001BF-B.ADA	P	C86002A.ADA	P	C87B34B-B.ADA	P
B86001BG-B.ADA	P	C86002A0	P	C87B34C-B.ADA	P
B86001BH-B.ADA	P	C86002A1	P	C87B35A-B.ADA	P
B86001BI-B.ADA	P	C86002A2M	P	C87B35B-B.ADA	P
B86001BJ-B.ADA	P	C86002B.ADA	P	C87B35C-B.ADA	P
B86001BK-B.ADA	P	C86002B1	P	C87B37A-B.ADA	P
B86001BL-B.ADA	P	C86002B2M	P	C87B37B-B.ADA	P
B86001BM-B.ADA	P	C86003A-B.ADA	P	C87B37C-B.ADA	P

C87B37D-B.ADA	P	C87B42A-B.ADA	P	C87B48B-B.ADA	P
C87B37E-B.ADA	P	C87B43A-B.ADA	P	C87B54A-B.ADA	P
C87B37F-B.ADA	P	C87B44A-B.ADA	P	C87B57A-B.ADA	P
C87B38A-B.ADA	P	C87B45A-B.ADA	P	C87B62A-B.DEP	N/A
C87B39A-B.ADA	P	C87B45C-B.ADA	P	C87B62B-B.DEP	N/A
C87B40A-B.ADA	P	C87B47A-B.ADA	P	C87B62C-B.DEP	N/A
C87B41A-B.ADA	P	C87B48A-B.ADA	P		

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A91002M-B.ADA	N/A	B950AJA-B.ADA	P	C920BAA-B.ADA	P
A95005A.ADA	P	B950BAA-B.ADA	P	C920BBA-B.ADA	P
A97106A-AB.ADA	P	B950DHA-B.ADA	P	C920B1A-B.ADA	P
B91001A-AB.ADA	P	B96002A-B.ADA	P	C93001A-B.ADA	P
B91001B-AB.ADA	P	B96003A-B.ADA	P	C93002A-B.ADA	P
B91001C-AB.ADA	P	B97101A-AB.ADA	P	C93003A-B.ADA	P
B91001D-AB.ADA	P	B97101B-AB.ADA	P	C93005A-B.ADA	P
B91001E-AB.ADA	P	B97101C-AB.ADA	P	C93005B-B.ADA	W
B91001F-AB.ADA	P	B97101D-AB.ADA	P	C93005C-B.ADA	W
B91001G-B.ADA	N/A	B97101E-AB.ADA	P	C93006A-AB.ADA	P
B91002A-B.ADA	P	B97102A-AB.ADA	P	C93007B-B.ADA	W
B91002B-B.ADA	P	B97102B-AB.ADA	P	C930ABA-B.ADA	P
B91002C-B.ADA	P	B97102C-AB.ADA	P	C930AFA-B.ADA	P
B91002D-B.ADA	P	B97102D-AB.ADA	P	C930AJA-B.ADA	P
B91002E-B.ADA	P	B97102E-AB.ADA	P	C930BAA-B.ADA	P
B91002F-B.ADA	P	B97102F-AB.ADA	P	C94001A-B.ADA	P
B91002G-B.ADA	P	B97102G-AB.ADA	P	C94002A-B.ADA	P
B91002H-B.ADA	P	B97102H-AB.ADA	P	C94002B-B.ADA	P
B91002I-B.ADA	P	B97102I-AB.ADA	P	C94003A-B.ADA	P
B91002J-B.ADA	P	B97103A-AB.ADA	P	C94004A-B.ADA	P
B91002K-B.ADA	P	B97103B-AB.ADA	P	C94004B-B.ADA	P
B91002L-B.ADA	P	B97103D-AB.ADA	P	C94004C-B.ADA	P
B91003A-AB.ADA	P	B97103E-AB.ADA	P	C94005A-B.ADA	P
B91004A-B.ADA	P	B97104A-AB.ADA	P	C94005B-B.ADA	P
B910ABA-B.ADA	P	B97104B-AB.ADA	P	C94006A-B.ADA	P
B910ACA-B.ADA	P	B97104C-AB.ADA	P	C94007A-B.ADA	P
B910AEA-B.ADA	P	B97104D-AB.ADA	P	C94007B-B.ADA	P
B910BCA-B.ADA	P	B97104E-AB.ADA	P	C94020A-B.ADA	P
B920ACA-B.ADA	P	B97104F-AB.ADA	P	C94021A-B.ADA	P
B920BJA-B.ADA	P	B97104G-AB.ADA	P	C940ABA-B.ADA	P
B920BDA-B.ADA	P	B97107A-AB.ADA	P	C940ACA-B.ADA	P
B95001A.ADA	P	B97108A-AB.ADA	P	C940ACB-B.ADA	P
B95001B-AB.ADA	P	B97108B-AB.ADA	P	C940ADA-B.ADA	P
B95002A.ADA	P	B97109A-AB.ADA	P	C940AGA-B.ADA	P
B95004A-AB.ADA	P	B97110A-AB.ADA	P	C940AGB-B.ADA	P
B95004B-AB.ADA	P	B97110B-AB.ADA	P	C940AHA-B.ADA	P
B95006A.ADA	P	B97111A-AB.ADA	P	C940A1A-B.ADA	P
B95006B-AB.ADA	P	B99001A-AB.ADA	P	C940BAA-B.ADA	P
B95006C-AB.ADA	P	B99001B-B.ADA	P	C940BBA-B.ADA	P
B95006D-AB.ADA	P	B99002A-B.ADA	P	C95008A-AB.ADA	P
B95007A-AB.ADA	P	B99002B-B.ADA	P	C95009A-B.ADA	P
B95007B-AB.ADA	P	B99002C-B.ADA	P	C95009B.ADA	P
B95020A-B.ADA	P	B99003A-AB.ADA	P	C95010A.ADA	P
B95020B-B.ADA	P	B9A001A-AB.ADA	P	C95011A.ADA	P
B95020B0	C	B9A001B-AB.ADA	P	C95012A-B.ADA	P
B95020B1	C	C900ACA-B.ADA	P	C95013A-B.ADA	P
B95020B2M	C	C910AHA-B.ADA	P	C95021A-B.ADA	P
B950ABA-B.ADA	P	C910BDA-B.ADA	P	C95022A-B.ADA	P
B950ABB-B.ADA	P	C910BDB-B.ADA	P	C95022B-B.ADA	P
B950ACA-B.ADA	P	C910BDC-B.ADA	P	C95040D-B.ADA	P
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B950AFA-B.ADA	P	C92003A.ADA	P	C950BGA-B.ADA	P
B950AHA-B.ADA	P	C920AJA-B.ADA	P	C950BHA-B.ADA	P

C950BJA-B.ADA	P	C96007A-B.ADA	P	C97303A-AB.ADA	P
C950CAA-B.ADA	P	C96008A-B.ADA	P	C97303B-AB.ADA	P
C950CBA-B.ADA	P	C96008B-B.ADA	P	C97304A-B.ADA	P
C950CHA-B.ADA	P	C97113A-B.ADA	P	C9A003A-B.ADA	P
C950CHC-B.ADA	P	C97114A-B.ADA	P	C9A004A-B.ADA	P
C950DEA-B.ADA	P	C97115A-B.ADA	P	C9A005A-B.ADA	P
C950DEB-B.ADA	P	C97201A-AB.ADA	P	C9A006A-B.ADA	P
C950DGA-B.ADA	P	C97201D-AB.ADA	P	C9A007A-B.ADA	P
C96001A-B.ADA	P	C97201E-AB.ADA	P	C9A009A-B.ADA	P
C96004A-B.ADA	P	C97201G-AB.ADA	P	C9A009B-B.ADA	P
C96005A-B.ADA	P	C97201H-AB.ADA	P	C9A009C-B.ADA	P
C96005B-B.TST	P	C97201X-AB.ADA	P	C9A009D-B.ADA	P
C96005C-B.TST	P	C97202A-AB.ADA	P	C9A009E-B.ADA	P
C96005D-B.ADA	P	C97203A-AB.ADA	P	C9A009F-B.ADA	P
C96005E-B.ADA	P	C97203B-AB.ADA	P	C9A009G-B.ADA	P
C96006A-B.ADA	P	C97204A-B.ADA	P	C9A009H-B.ADA	P

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BA1011B1	C	BA1101C2M	C	BA3001F2	C
BA1011B2	C	BA1101C3	C	BA3001F3	C
BA1011B3	C	BA1101C4	C	BA3006A-B.ADA	P
BA1011B4	C	BA1101C5	C	BA3006A0	C
BA1011B5	C	BA1101D-AB.ADA	P	BA3006A1	C
BA1011B6	C	BA1101E-B.ADA	P	BA3006A2	C
BA1011B7	C	BA1101F-B.ADA	P	BA3006A3	C
BA1011B8	C	BA1101G-B.ADA	P	BA3006A4	C
BA1011C-B.ADA	P	BA1101H-B.ADA	P	BA3006A5	C
BA1011C0M	C	BA1101H0	C	BA3006A6M	C
BA1011C1	C	BA1101H1M	C	BA3006B-B.ADA	P
BA1011C2	C	BA2001A-AB.ADA	P	BA3006B0	C
BA1011C3	C	BA2001B-AB.ADA	P	BA3006B1	C
BA1011C4	C	BA2001C-AB.ADA	P	BA3006B2	C
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BA1011C6	C	BA2001E-AB.ADA	P	BA3006B4M	C
BA1011C7	C	BA2001E0M	C	BA3007A-B.ADA	P
BA1011C8	C	BA2001E1	C	BA3007A0	C
BA1020A-B.ADA	P	BA2001E2	C	BA3007A1	C
BA1020A0M	C	BA2001F-AB.ADA	P	BA3007A2	C
BA1020A1	C	BA2001F0M	C	BA3007A3	C
BA1020A2	C	BA2001F1	C	BA3007A4	C
BA1020A3	C	BA2001F2	C	BA3007A5M	C
BA1020A4	C	BA2001G-AB.ADA	P	BA3007B-B.ADA	P
BA1020A5	C	BA2001G0M	C	BA3007B0	C
BA1020A6	C	BA2001G1	C	BA3007B1	C
BA1020A7	C	BA2003B-AB.ADA	P	BA3007B2	C
BA1020A8	C	BA2003B0M	C	BA3007B3	C
BA1020B-B.ADA	P	BA2003B1	C	BA3007B4	C
BA1020B0	C	BA2013A-B.ADA	P	BA3007B5	C
BA1020B1	C	BA2013B-B.ADA	P	BA3007B6	C
BA1020B2	C	BA3001A-AB.ADA	P	BA3007B7	C
BA1020B3	C	BA3001A0M	C	BA3007B8M	C
BA1020B4	C	BA3001A1	C	BA3008A-B.ADA	P
BA1020B5	C	BA3001A2	C	BA3008A0	C
BA1020B6M	C	BA3001A3	C	BA3008A1	C
BA1020C-B.ADA	P	BA3001B.ADA	P	BA3008A2	C
BA1020C0M	C	BA3001B0M	C	BA3008A3	C
BA1020C1	C	BA3001B1	C	BA3008A4	C
BA1020C2	C	BA3001C-AB.ADA	P	BA3008A5M	C
BA1020C3	C	BA3001C0M	C	BA3008B-B.ADA	P
BA1020C4	C	BA3001C1	C	BA3008B0	C
BA1020C5	C	BA3001D-AB.ADA	P	BA3008B1	C
BA1101A-AB.ADA	P	BA3001D0M	C	BA3008B2	C
BA1101B-B.ADA	P	BA3001D1	C	BA3008B3	C
BA1101B0M	C	BA3001E-AB.ADA	P	BA3008B4	C
BA1101B1	C	BA3001E0M	C	BA3008B5	C
BA1101B2	C	BA3001E1	C	BA3008B6M	C
BA1101B3	C	BA3001E2	C	BA3013A-B.ADA	P
BA1101B4	C	BA3001E3	C	BA3013A0	C
BA1101C-B.ADA	P	BA3001F-AB.ADA	P	BA3013A1	C

BA3013A2	C	CA1013A5	C	CA2008A-B.ADA	P
BA3013A3	C	CA1013A6M	C	CA2008A0M	C
BA3013A4	C	CA1014A-AB.ADA	P	CA2008A1	C
BA3013A5	C	CA1014A0M	C	CA2008A2	C
BA3013A6	C	CA1014A1	C	CA2009A-B.DEP	P
BA3013A7M	C	CA1014A2	C	CA2009B-B.DEP	W
CA1002A-B.ADA	P	CA1014A3	C	CA2009C-B.DEP	N/A
CA1002A0	C	CA1022A-B.ADA	P	CA2009C0M	C
CA1002A1	C	CA1022A0	C	CA2009C1	C
CA1002A2	C	CA1022A1	C	CA2009D-B.DEP	P
CA1002A3M	C	CA1022A2	C	CA2009E-B.DEP	W
CA1002A4	C	CA1022A3	C	CA2009F-B.DEP	W
CA1002A5	C	CA1022A4	C	CA2009F0M	C
CA1002A6	C	CA1022A5	C	CA2009F1	C
CA1002A7	C	CA1022A6M	C	CA3002A-B.ADA	P
CA1002A8	C	CA1102A-B.ADA	P	CA3002A0	C
CA1002A9	C	CA1102A0	C	CA3002A1	C
CA1003A-AB.ADA	P	CA1102A1	C	CA3002A2M	C
CA1003B-AB.ADA	W	CA1102A2M	C	CA3002A3	C
CA1004A-AB.ADA	P	CA1105A-B.ADA	P	CA3006C-B.ADA	P
CA1005A-AB.ADA	P	CA1105A0	C	CA3006C0	C
CA1006A-AB.ADA	P	CA1105A1M	C	CA3006C1	C
CA1007A-AB.ADA	P	CA1105B-B.ADA	P	CA3006C2	C
CA1007A0	C	CA1105B0	C	CA3006C3	C
CA1007A1M	C	CA1105B1	C	CA3006C4	C
CA1008A-AB.ADA	P	CA1105B2	C	CA3006C5M	C
CA1008A0	C	CA1105B3M	C	CA3006D-B.ADA	P
CA1008A1M	C	CA1105B4	C	CA3006D0	C
CA1009A-AB.ADA	P	CA1105B5	C	CA3006D1	C
CA1009A0	C	CA1107A.ADA	P	CA3006D2	C
CA1009A1	C	CA1107A0	C	CA3006D3M	C
CA1009A2	C	CA1107A1M	C	CA3006E-B.ADA	P
CA1009A3	C	CA1107A2	C	CA3006E0	C
CA1009A4M	C	CA1108A-B.ADA	W	CA3006E1	C
CA1011A-B.ADA	W	CA1108B-B.ADA	W	CA3006E2	C
CA1011A0	W	CA2001H-B.ADA	P	CA3006E3	C
CA1011A1	W	CA2001H0	C	CA3006E4	C
CA1011A2	W	CA2001H1	C	CA3006E5	C
CA1011A3	W	CA2001H2	C	CA3006E6M	C
CA1011A4	W	CA2001H3M	C	CA5002A-B.ADA	P
CA1011A5	W	CA2002A-B.ADA	P	CA5002B-B.ADA	P
CA1011A6M	W	CA2002A0M	C	CA5002B0	C
CA1012A-B.DEP	P	CA2002A1	C	CA5002B1	C
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CA1012A1	C	CA2003A-AB.ADA	P	CA5002B3	C
CA1012A2	C	CA2003A0M	C	CA5002B4	C
CA1012A3	C	CA2003A1	C	CA5002B5	C
CA1012A4M	C	CA2004A-AB.ADA	P	CA5002B6	C
CA1012B-B.ADA	P	CA2004A0M	C	CA5002B7M	C
CA1012B0	C	CA2004A1	C	CA5003A-B.ADA	P
CA1012B2	C	CA2004A2	C	CA5003A0	C
CA1012B4M	C	CA2004A3	C	CA5003A1	C
CA1013A-B.ADA	P	CA2004A4	C	CA5003A2	C
CA1013A0	C	CA2007A-AB.ADA	P	CA5003A3	C
CA1013A1	C	CA2007A0M	C	CA5003A4	C
CA1013A2	C	CA2007A1	C	CA5003A5	C
CA1013A3	C	CA2007A2	C	CA5003A6M	C
CA1013A4	C	CA2007A3	C	CA5003B-B.ADA	P

CA5003B0	C	LA3004A2	C	LA3004B5	C
CA5003B1	C	LA3004A3	C	LA3004B6M	C
CA5003B2	C	LA3004A4	C	LA5001A-B.ADA	P
CA5003B3	C	LA3004A5	C	LA5001A0	C
CA5003B4	C	LA3004A6M	C	LA5001A1	C
CA5003B5M	C	LA3004B-B.ADA	N/A	LA5001A2	C
CA5004A-B.ADA	P	LA3004B0	C	LA5001A3	C
CA5004B-B.ADA	P	LA3004B1	C	LA5001A4	C
LA3004A-AB.ADA	N/A	LA3004B2	C	LA5001A5	C
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BB2003A-AB.ADA	P	CB2004A-B.ADA	P	CB4005A-AB.ADA	P
BB2003B-AB.ADA	P	CB2005A-B.ADA	P	CB4006A-B.ADA	P
BB2003C-AB.ADA	P	CB2006A-AB.ADA	P	CB4008A-AB.ADA	P
BB3001A-B.ADA	P	CB2007A-AB.ADA	P	CB4009A-AB.ADA	P
BB3002A-AB.ADA	P	CB3003A-B.ADA	P	CB5001A-B.ADA	P
BB3005A-AB.ADA	P	CB3004A-AB.ADA	P	CB5001B-B.ADA	P
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BC1008A-AB.ADA	P	BC3002C-AB.ADA	P	BC3301B-AB.ADA	P
BC1008B-AB.ADA	P	BC3002D-AB.ADA	P	BC3302A-AB.ADA	P
BC1008C-AB.ADA	P	BC3002E-AB.ADA	P	BC3302B-AB.ADA	P
BC1009A-AB.ADA	P	BC3003A-AB.ADA	P	BC3303A-AB.ADA	P
BC1011A-AB.ADA	P	BC3003B-AB.ADA	P	BC3304A-AB.ADA	P
BC1011B-AB.ADA	P	BC3005A-AB.ADA	P	BC33ABA-B.ADA	P
BC1012A-AB.ADA	P	BC3006A-AB.ADA	P	BC33ACA-B.ADA	P
BC1013A-B.ADA	W	BC3009A-B.ADA	P	BC33ADA-B.ADA	P
BC10ABA-B.ADA	P	BC3009B-B.ADA	P	BC33AEA-B.ADA	P
BC10ABB-B.ADA	P	BC3009C-B.ADA	P	BC3401A-AB.ADA	P
BC10ACA-B.ADA	P	BC3011B-B.ADA	P	BC3401B-AB.ADA	P
BC10ADA-B.ADA	P	BC3011C-AB.ADA	P	BC3402A-AB.ADA	P
BC10AEA-B.ADA	P	BC3013A-AB.ADA	P	BC3402B-AB.ADA	P
BC10AEB-B.ADA	P	BC3018A-B.ADA	P	BC3403A-AB.ADA	P
BC10AEC-B.ADA	P	BC30ABA-B.ADA	P	BC3403B-AB.ADA	P
BC10AED-B.ADA	P	BC30ACA-B.ADA	P	BC3403C-AB.ADA	P
BC10AFA-B.ADA	P	BC3101A-B.ADA	P	BC3404A-AB.ADA	P
BC10AGA-B.ADA	P	BC3101B-B.ADA	P	BC3404B-B.ADA	P
BC1101A-AB.ADA	P	BC3102A-B.ADA	P	BC3404C-AB.ADA	P
BC1102A-B.ADA	P	BC3102B-B.ADA	P	BC3404D-AB.ADA	P
BC1103A-B.ADA	P	BC3103A-AB.ADA	P	BC3404E-AB.ADA	P
BC1104A-B.ADA	P	BC3103B-AB.ADA	P	BC3404F-AB.ADA	P
BC1104B-B.ADA	P	BC31ABA-B.ADA	P	BC3405A-AB.ADA	P
BC1106A-AB.ADA	P	BC31ACA-B.ADA	P	BC3405B-B.ADA	W
BC1107A-B.ADA	P	BC31ADA-B.ADA	P	BC3405D-AB.ADA	P
BC11ABA-B.ADA	P	BC3201A-B.ADA	P	BC3405E-AB.ADA	P
BC11ACA-B.ADA	P	BC3201B-AB.ADA	P	BC3405F-AB.ADA	P
BC1201A-AB.ADA	P	BC3201C-B.ADA	P	BC3501A-AB.ADA	P
BC1201B-AB.ADA	P	BC3202A-B.ADA	P	BC3501B-AB.ADA	P
BC1201C-AB.ADA	P	BC3202B-B.ADA	P	BC3501C-AB.ADA	P
BC1201D-AB.ADA	P	BC3202C-B.ADA	P	BC3501D-AB.ADA	P
BC1202A-AB.ADA	P	BC3203B-B.ADA	P	BC3501E-AB.ADA	P
BC1202B-AB.ADA	P	BC3204A-B.ADA	W	BC3501F-AB.ADA	P
BC1202C-AB.ADA	P	BC3204B-B.ADA	W	BC3501G-AB.ADA	P
BC1202D-AB.ADA	P	BC3204C-B.ADA	W	BC3501H-AB.ADA	P
BC1203A-AB.ADA	P	BC3204C0	W	BC3501I-AB.ADA	P
BC1207A-B.ADA	P	BC3204C1	W	BC3501J-AB.ADA	P
BC1226A-B.ADA	P	BC3204C2	W	BC3501K-AB.ADA	P
BC12ABA-B.ADA	P	BC3204D-B.ADA	W	BC3502A-AB.ADA	P
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BC1303D-AB.ADA	P	BC3205D0	W	BC3502G-AB.ADA	P
BC1303E-AB.ADA	P	BC3205D1M	W	BC3502H-AB.ADA	P
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CC2002A-AB.ADA	P	CC3407B-AB.ADA	P	CC3602A-AB.ADA	P
CC3004A-B.ADA	P	CC3407C-AB.ADA	P		

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AE2101A-B.ADA	P	CE2111D-B.ADA	P	CE3301A-B.ADA	P
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